



15253

FEDERAL EXPRESS

August 7, 1985

Mr. John Oaks
U.S. Environmental Protection
Agency - Region V
Waste Management Division
Hazardous Waste Enforcement Branch
CERCLA Enforcement Section
230 South Dearborn Street
Chicago, Illinois 60604

RE: Miami County Incinerator Landfill, Troy, Ohio;
EPA Ref. No. 5HE-12.

Dear Mr. Oaks:

I. Introduction

This will acknowledge receipt on July 8, 1985, of your letter of July 3 concerning the Miami County Incinerator Landfill located near Troy, Ohio.

Your letter requests an indication of whether Kimberly-Clark Corporation's ("Kimberly-Clark" or the "Corporation") Brown-Bridge Division ("Brown-Bridge") is willing to participate in a "voluntary" clean-up of the referenced site. The letter further asks whether Brown-Bridge representatives will attend an Environmental Protection Agency ("EPA" or the "Agency") meeting concerning the site to be held August 9 in Chicago and finally requests certain data concerning Brown-Bridge's use of the Miami County facility. Our answers are set out below.^{1/}

1/

In submitting its response, Kimberly-Clark does not waive, nor does it intend to waive, any rights the Corporation may have to challenge actions taken by EPA or any other party with respect to the Miami County Incinerator site. Kimberly-Clark further expressly denies that any of its disposal activities involving the referenced site have violated applicable provisions of Federal, state, or local law.

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AUG 7 1985
U.S. EPA REGION V
WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE ENFORCEMENT BRANCH

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II. Willingness to Participate
In Voluntary Clean-Up/
Attendance at EPA Meeting

Kimberly-Clark has a longstanding commitment to environmental protection, and the Corporation has in the past voluntarily participated in clean-ups conducted pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"). Under appropriate circumstances, Kimberly-Clark would again be willing to consider participation in such a clean-up at the Miami County Incinerator site. At the present time, however, we do not feel that enough information has been made available by EPA identifying users of the site, specifying volumes or types of wastes disposed of, outlining actual hazards at the site, or detailing potential remedial actions and their likely costs to permit us to intelligently decide whether to participate in a voluntary clean-up.

Representatives of Kimberly-Clark will attend EPA's scheduled August 9 meeting in Chicago concerning the Miami County Incinerator site. We trust that this meeting will provide at least preliminary answers to the questions raised above.

III. EPA Data Requests

Attached hereto are Kimberly-Clark's responses to the data requests included in EPA's July 3 letter.

In reviewing this submittal, several points should be kept in mind.

1. Consistent with established corporate records retention guidelines, Brown-Bridge no longer has any files relating to individual shipments made to the Miami County site. A few records relating to Mill solid waste disposal practices in the pertinent time frame are available, and copies are attached as Exhibit 1.
2. In the absence of detailed records, it has been necessary to estimate both periods of usage and quantities of wastes sent to the Miami County site. The data presented represents our best judgement in both areas, but we are obviously not able, ten or more years after the fact, to guarantee the accuracy of these figures.
3. Five waste streams have been identified as sent to the Miami County Incinerator site during the period that this landfill

was in operation (January 1, 1968 - October 31, 1978). Each of these wastes is briefly described below:

- A. Nonhazardous Waste Papers and Lumber. These wastes, consisting principally of paper trim, office wastes, waste pallets and the like, were sent to Miami County from 1975 to 1978. Prior to this time, these materials were incinerated at Brown-Bridge.
- B. Nonhazardous Powder Wastes. This waste from Brown-Bridge's heat seal paper coating operations was also landfilled at Miami County, likely for the entire 10-year life of the site. This material consisted principally of ground plasticizer powders.
- C. Nonhazardous Incinerator Ash. This waste was produced by the Mill's onsite incinerator between 1968 and January, 1975. This unit was used to burn Brown-Bridge's paper and lumber wastes (i.e., the wastes noted in Paragraph A).
- D. Solvent Coater Liquid Wastes. Brown-Bridge produces what are called dry gummed label papers used for such items as carton labels and stamps. Again, several hazardous waste constituents (principally industrial solvents) are present in small amounts.
- E. Heat Seal Coater Waste Sludge. Brown-Bridge also produces a variety of products used as label stock for items such as packaged meats, bakery goods, and pharmaceutical containers. The uncured coating waste from this process contains certain hazardous constituents which are present in small quantities.

In terms of overall volumes, by far the largest percentage of Mill wastes sent to Miami County (70⁺ percent) consisted of nonhazardous paper and other similar wastes. More detailed information on each waste stream is set out in Exhibit 2. Exhibit 3 contains supplemental data specifying the principal constituents of the 5 identified waste types.

Exhibit 2 also identifies the 4 haulers used by Brown-Bridge between 1968 and 1978 who are known to have transported wastes to the Miami County site. Exhibit 4 supplements this information with previous and current addresses for each hauler.

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Question 7 of EPA's request asks for information concerning Kimberly-Clark's insurance coverage potentially applicable to an Agency-mandated clean-up of the Miami County site. In the time available, it has not been possible to reach any conclusions concerning the extent of such insurance coverage. At the moment, we can say only that, during the pertinent time period, Kimberly-Clark did have general liability insurance including coverage for some environmental hazards. The extent to which that coverage would ultimately be held to include clean-up costs at a site such as the Miami County Incinerator simply cannot be determined given the limited facts now available about actual hazards at the site, likely clean-up costs, and the roles of the various parties involved.

IV. Data Request to EPA

To facilitate determination of whether it would be appropriate for Kimberly-Clark to participate in a voluntary clean-up of the Miami County site, the following information is requested from EPA:

1. Copies of all shipping documents or other information now available to EPA and/or any Agency contractor related to use of the Miami County site by Brown-Bridge Mills. Please also include any data available to EPA concerning the nature of Brown-Bridge wastes sent to this site.
2. A complete listing, including full names and business addresses, of all persons, firms, and governmental entities which EPA now considers candidates for classification as potentially responsible parties ("PRPs") within the meaning of CERCLA with regard to the Miami County site.
3. A copy of EPA's 1984 TechLaw Study, and any subsequent update reports, concerning volumes and types of waste deposited by individual parties at the Miami County site.
4. Copies of all draft or final reports and/or technical studies now available to EPA as a result of the Agency's ongoing Remedial Investigation/Feasability Study of the Miami County site.

Please consider this request as formally made pursuant to the Freedom of Information Act ("FOIA") and EPA's implementing regulations related thereto. Consistent with the FOIA, we would appreciate the Agency's prompt response to each of the above

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requests. Kimberly-Clark will be happy to bear any copying or other processing expenses incurred by EPA in responding to our request.

V. Conclusion

Further information concerning this submittal may be obtained from Mr. M. V. Reynolds, Brown-Bridge's Plant Engineer, at (513) 339-0561 or K. A. Strassner, Kimberly-Clark's Counsel-Roswell Operations, at (404) 587-8634.

Very truly yours,

G. C. Thorstad/cb
G. C. Thorstad
Mill Manager

Enclosures

LIST OF EXHIBITS

- Exhibit 1 Records Relating to
Brown-Bridge Solid Waste Disposal
Practices
(January 1968 - October, 1978)
- Exhibit 2 Brown-Bridge Wastes
Sent to the
Miami County Incinerator Landfill
- Exhibit 3 Principal Components of
Brown-Bridge Wastes
Sent to the
Miami County Incinerator Landfill
- Exhibit 3A Solvent Coater Liquid Wastes
- Exhibit 3B Heat Seal Coater Waste Sludge
- Exhibit 3C Other Brown-Bridge Wastes
- Exhibit 4 Previous and Current Addresses
of Haulers
Used by Brown-Bridge
To Transport Waste Materials to the
Miami County Incinerator Landfill

Exhibit 1

Records Relating to
Brown-Bridge Solid Waste Disposal
Practices
(January 1968 - October, 1978)

450 East Town Street
P.O. Box 118
Columbus, Ohio 43216



Department of Health

Brown Bridge Mills, Inc.
E. Water Street
Troy, Ohio 45373

Dear Sir:

The Federal Air Quality Act of 1970 (PL 91-604) places certain obligatory actions upon the State of Ohio relative to federally designated air quality control regions encompassing land areas in Ohio. The State (Ohio Air Pollution Control Board) must adopt a plan for the implementation, maintenance, and enforcement of the national primary ambient air quality standards.

If State standards and implementation plans are to be developed which are economically reasonable and technically feasible and if a value judgment is to be made in accordance with local needs and realities - it is essential that the Ohio Air Pollution Control Board acquire a great diversity of technical intelligence information. The required detailed information includes meteorological, climatological and aerometric data; economic, urban growth, demographic and development data; health and damage data; political, legislative and judicial data. While all of the above data classes are important, the most essential segment of the data base is that related to emission sources and emission controls.

Regional Emission Inventory - The inventory of air pollution sources and emission strengths within a region provides the basic groundwork upon which immediate and future air conservation plans and activities can be equitably formulated, established and implemented. The attached two-part questionnaire seeks to obtain this very vital, basic and all-important information.

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MAY 15 1971
RECEIVED

The knowledge and information about your particular installation is most essential. Accurate industry information is needed, so that each source may be placed in its proper perspective in relation to other sources, including transportation, domestic activity, refuse disposal, natural sources, etc.

We urgently request your cooperation in completing the questionnaire and returning it at your earliest possible opportunity. Please feel free to supply such additional information or comments as you may desire.

Your interest, cooperation and early attention will be sincerely appreciated.

Very truly yours,

JACK A. WUNDERLE
Engineer-in-Charge
Air Pollution Unit
Division of Engineering

JAW:ls

Enclosures

July 14th

INVENTORY OF AIR CONTAMINANT EMISSIONS

INSTRUCTIONS FOR COMPLETING QUESTIONNAIRE

GENERAL

1. All information to be based on latest annual data. Specify the base year used.
2. Complete all sections of the form that pertain to your firm. The pink copy may be retained for your file.
3. The small letters in each column refer to the footnotes on page 2. Please utilize these in answering each section.
4. If emission rates are available from measurements or computations, they should be included in the appropriate columns, along with supporting data. If emission data is unavailable, the emission column may be left blank. In such case, emissions will be calculated by the engineering staff of the State of Ohio, based upon data supplied. Calculations and factors utilized in determining final emissions will be forwarded to the originator of each questionnaire upon request.
5. If there is more than one plant location, please indicate totals for each location.
6. Please return the completed questionnaire - within ten working days - to:

Mike
disface?
w/ in county
Aug. for

Air Pollution Unit
Ohio Department of Health
1147 Chesapeake Avenue
Columbus, Ohio 43212

If there are any questions, please contact the above by phone or mail. Telephone: (AC 614) 469-2390.

Section I

1. This section refers to the total amount of fuel consumed on the premises. List the quantities of fuel consumed as designated by Footnote a. If there is more than one plant location, list fuel consumption for each location.
2. When estimating the percentage of fuel consumed for process heat, include power generation in the category.
3. Column E should be completed regardless of the type or quantity of fuels consumed.

Section II

1. This section refers to the total quantity of refuse generated on the premises. Please estimate the amount of refuse produced regardless of the method of disposal. (Column B)
2. If air pollution control equipment is being utilized on disposal equipment, please indicate type and efficiency of the control equipment.
3. If off-site disposal is used, please indicate name of hauler and location of disposal site.

Section III

1. This section refers to the quantity of material processed or used to produce the items manufactured by your establishment.
2. Please indicate in Columns A, B and C, the types of processes, the types of materials used in these processes, and the amounts of these materials utilized on an annual basis; for example, the amounts of limestone, sand, coal and blast furnace dust used to produce cement.
3. Any process descriptions, equipment types, flow charts, etc. that will assist in calculating process losses should be included.

Stack Data

1. This section refers to any stacks, vents, fan or blower discharges, conduits or openings through which discharge emissions from any source listed in Sections I through III above.
2. Please list all stacks on the premises and identify which sources are vented from the stack in the column titled "Sources Vented".
3. If test values are not available, please show design, calculated or estimated values and indicate as such.

AIR CONTAMINANT EMISSIONS SURVEY

UTM GRID COORDINATE:

Firm Name Boyer Bridge Mills Inc.
 Person to contact regarding this report J. E. Smith Title Spec. Inspector Phone (513) 322-1266
 Mailing address Water St.
 Plant address Water St.
 Nature of business (Products) Gunmed tape mfg. Standard Industrial Classification Code 2641
 Employees at plant location 300 ; If seasonal, give range —

SECTION I - FUEL USE FOR GENERATION OF HEAT, STEAM, AND POWER

Normal operating schedule 24 Hours per day 5 Days per week 52 Weeks per year

Seasonal and/or peak operation period (Specify) —

Estimate of percent of total fuel consumed to provide space heat 50%

A	B	C	D	E	F	G	H	I	J	K	L
Sources or No. of boilers (A)	Size of unit (input) (B) 10 ⁶ Btu/hr.	Type unit (C)	Fuel data (D)				Air cleaning equipment		Estimate of contaminants (NO)		
			Type fuel (E)	Amount per year (F)	Heat Content (G) Btu	Percent sulfur (G-H)	Percent ash (coal only) (G-H)	Type (I)	Efficiency (J) %	Type (K)	Quantity (L)
1 - <u>Boiler</u>	<u>Total</u>	<u>—</u>	<u>Natural Gas</u>	<u>10,000,000</u>	<u>1000 Btu</u>	<u>Light</u>					
2 - <u>Boiler</u>	<u>1,116</u>	<u>Combustion</u>	<u>Nat. Gas</u>	<u>455,293 cu ft.</u>							
3 - <u>Boiler</u>	<u>1,116</u>	<u>Combustion</u>	<u>2.5 Gal oil</u>	<u>13,200 gal</u>	<u>Solaris</u>						
4 - <u>Boiler</u>	<u>1,116</u>	<u>Combustion</u>	<u>2.5 Gal oil</u>	<u>13,200 gal</u>							

SECTION II - REFUSE DISPOSAL

Refuse disposed of yes On site — Off site — Location of disposal site and/or name of hauler ashes to Miami City Incinerator Landfill

Normal on-site combustion operating schedule — Hours per day 5 Days per week 52 days/yr. Weeks per year —

Seasonal and/or peak operation period (Specify) —

A	B	C	D	E	F	G	H
Waste material		Method of disposal (See code on page 2)	Incinerator capacity, lb/hr	Auxiliary fuel used (O)	Type and efficiency air cleaning equipment (I-J)	Estimate of contaminants (NO)	
Type (N)	Amount per year (F)					Type (K)	Quantity per year (L)
<u>1500 lbs/yr</u>	<u>1500 lbs/yr</u>	<u>Incineration code 5</u>	<u>2000 lb/hr</u>	<u>7000</u>	<u>wet washer</u>	<u>1/6 ash</u>	

(S) List sources from column A, Sections I, II, III which utilize each stack.

8. Other (specify):

NOTE: Use odd numbered sheets if necessary

KIMBERLY-CLARK CORPORATION AND AFFILIATES

REPORTING UNIT Brown-Bridge Div.

ENTITY CODE 463 CURRENCY UNITS U. S. \$000

YEAR-TO-DATE FOR THE PERIOD ENDED 12/31/77

PREPARED BY C. B. R. DATE 1/30/78

REVIEWED BY J. A. M. DATE 1/30/78

SCHEDULE 3-G ENVIRONMENTAL PROTECTION COSTS

ACTUAL COSTS FOR CURRENT YEAR

LINE	COLUMN REFERENCE:		A	B	C
			CAPITAL EXPENDITURES (1)	OPERATING AND MAINTENANCE EXPENSES (2)	RESEARCH EXPENSE (3)
1	AIR		0	60	0.5
2	WATER		0	0.3	0
3	SOLID WASTE		0	66.3	0
4	NOISE		0	0	0
5	CURRENT YEAR TOTAL		0	126.6	0.5

COST ESTIMATE FOR FIRST SUBSEQUENT YEAR

6	AIR		0	66	0.6
7	WATER		0	0.4	0
8	SOLID WASTE		0	72.4	0
9	NOISE		0	0	0
10	TOTAL - FIRST SUBSEQUENT YEAR		0	138.4	0.6

COST ESTIMATES FOR SECOND THROUGH FIFTH SUBSEQUENT YEARS

11	TOTAL - SECOND SUBSEQUENT YEAR		0	370	3.4
12	TOTAL - THIRD SUBSEQUENT YEAR		0	2	0
13	TOTAL - FOURTH SUBSEQUENT YEAR		0	403	0
14	TOTAL - FIFTH SUBSEQUENT YEAR		0	775	3.4

KC 8840.32 C

KIMBERLY-CLARK CORPORATION AND AFFILIATES

REPORTING UNIT Brown Bridge Div.

ENTITY CODE 463 CURRENCY UNITS U. S. \$000

YEAR-TO-DATE FOR THE PERIOD ENDED 12/31/77

PREPARED BY C. B. R. DATE 1/30/78

REVIEWED BY J. A. M. DATE 1/30/78

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LINE	COLUMN REFERENCE:	A	B	C
		CAPITAL EXPENDITURES (1)	OPERATING AND MAINTENANCE EXPENSES (2)	RESEARCH EXPENSE (3)
1	AIR	0	60	0.5
2	WATER	0	0.3	0
3	SOLID WASTE	0	66.3	0
4	NOISE	0	0	0
5	CURRENT YEAR TOTAL	0	126.6	0.5

COST ESTIMATE FOR FIRST SUBSEQUENT YEAR

6	AIR	0	66	0.6
7	WATER	0	0.4	0
8	SOLID WASTE	0	72	0
9	NOISE	0	0	0
10	TOTAL - FIRST SUBSEQUENT YEAR	0	138.4	0.6

COST ESTIMATES FOR SECOND THROUGH FIFTH SUBSEQUENT YEARS

11	TOTAL - SECOND SUBSEQUENT YEAR	0	370	3.4
12	TOTAL - THIRD SUBSEQUENT YEAR	0	2	0
13	TOTAL - FOURTH SUBSEQUENT YEAR	0	403	0
14	TOTAL - FIFTH SUBSEQUENT YEAR	0	775	3.4

KC 8840.32 C



KIMBERLY-CLARK CORPORATION

to Elmer Dickson

Director of Occupational Safety and Health

1/11/78

RE: OHIO 1977 INDUSTRIAL WASTE
MANAGEMENT SURVEY

Here is a copy of our response to subject survey.

Nick Gallagher

Nick Gallagher
Technical Director

cc: J. S. Rausch

NDG/11b



BROWN - BRIDGE
A Division of Kimberly-Clark
Troy, Ohio 45373

1/11/78

Battelle Columbus Laboratories
505 King Ave.
Columbus, Ohio 43201

Attn: Ms. Shirley J. Smith
Researcher

Dear Ms. Smith:

Here is our response to the 1977 Industrial Waste Management Survey
you provided to us under a covering letter of December 7, 1977.

Sincerely

N. D. Gallagher
N. D. Gallagher
Technical Director

cc: J. S. Rausch

NDG/11b

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Ohio 1977 Industrial Waste Management Survey

I. General Information

1. Company Name: Brown-Bridge, A Division of Kimberly-Clark Corporation.
2. Mailing Address: P. O. Box 370 Troy, Ohio 45373

Street
City
Zip Code
3. Plant Location: 517 E. Water St. Troy, Ohio Miami 45373

Street
City
County
Zip Code
4. Person Responsible for Plant Operations: Roger E. Yount

Name

Operations Manager
513-339-0561
EXT. 251

Title
Phone
5. Person Providing Information: N. D. Gallagher

Name

Research Director
513-339-0561
EXT. 220

Title
Phone
6. Principal Products and Their Standard Industrial Classification Codes (SIC):

Products	SIC	Amount or % of Total Production
a. <u>Adhesive coated paper, cloth</u>	<u>26-41</u>	<u>100</u>
<u>film and foil</u>		
b. _____	_____	_____
c. _____	_____	_____
d. _____	_____	_____
7. Processes Used at Plant:

Product	Processes
a. <u>Water-sensitive adhesive coatings--Aqueous and solvent coating.</u>	
b. <u>Heat-sensitive adhesive coatings---Aqueous and hot-melt coating.</u>	
c. <u>Pressure-sensitive adhesive coatings--Aqueous and hot-melt coatings.</u>	
d. _____	_____

8. Raw Materials and Other Chemicals Used in Manufacturing Processes:

- a. Paper, Cloth, Film and Foil e. Solvents, Plasticizers DCHP DPP
 b. Emulsion polymers f. Animal glues
 c. Thermoplastic resins g. Clays, Stabilizers and Process aides.
 d. Starches, dextrines h. Solution polymers.

II. Treatment Facilities

1. On-Site Wastewater Treatment Facilities: Yes _____ No X
 a. NPDES No.: OH 0010626
 b. On-Site Wastewater Treatment Facilities by 1983: Yes _____ No X
 2. Industrial Municipal Discharge: Yes X No _____
 a. Name of Plant: Troy Municipal Plant
 b. Pretreatment: Yes X No _____
 c. Industrial Municipal Discharge by 1983: Yes X No _____
 3. Air Pollution Control Facilities: Yes X No _____
 a. Types: Carbon absorption solvent recovery.
 b. Air Permit Nos.: 0855140083P001, 0855140083P002
 c. Air Pollution Control Facilities by 1983: Yes _____ No _____
 4. In-House Waste Treatment Capabilities: Paper balers, solid plasticizer
recovery unit.

5. Is there any currently used or abandoned landfill, dump, or lagoon on plant property?: Yes _____ No X

Currently Used

Abandoned

a. Landfill _____

b. Dump _____

c. Lagoon _____

6. Attach sketch of treatment facilities including storage areas. (For site inspections only).

III. Storage Area Practices

1. Area Diked: Yes X No _____
2. Drainage Collection System: Yes X No _____

IV. Off-Site Disposal

1. Waste hauled off site by: You _____ Others X
2. Contract hauler utilized:

Name

Address

a. Commercial Waste Removal Inc.*Piqua, Ohiob. Sussman Inc. **Piqua, Ohioc. Raymond Ferguson ***Troy, OhioAvey Service Inc. ***Troy, Ohio

3. Private Contractors and/or Municipal Landfills Utilized:

Name

Address

a. * Waste solvent and sludgeb. ** Waste paperc. *** Scrap lumber, waste plasticizer powder

4. Approximately how many miles must your industrial waste in Tables I and II for its disposal or recycling: do not know miles (please round to nearest mile).

V. Costs

1. Total internal expenditures for industrial waste management function (include and operation costs for processing, storage, collection and disposal ex. capital)

53 - Bids
60M for
T. & S. br.
11,292 SOLID
.337

\$ 115,000 /Year

2. Total annual return from internal salvage: \$ 85,200 /Year

3. Total annual charges by external industrial waste handlers: (total dollars/year) (a) Contract haulers: \$ 11,292 (b) Private landfill operators: \$ (c) Municipal refuse collection \$

4. Total annual return from external salvage: \$ 28,000 /Year

5. If your company utilizes outside contractors, do you feel that your total costs for handling and processing your industrial wastes are:

(a) Reasonable X

(b) Moderately expensive

(c) Excessive

VI. Industrial Waste Exchange Program and Waste Treatment Centers

1. Do you feel your company would use the services provided by an industrial waste exchange program? Yes X No

2. Do you feel that there is a need for regional energy recovery, recycling, and industrial waste treatment centers?: Yes X No

Table I.

Waste Type	Physical State			Frequency of Waste Production				On-Site Treatment Employed					
	Liquid	Solid	Sludge	Seasonal	Continual	Occasional	Other (Specify)	Neutralization	Chemical Precipitation	Recipitation by Evaporation	Oxidation or Reduction	Recycling or Waste Recovery	Biological Oxidation
01. Pesticides													
02. Acids													
03. Caustics													
04. Pickle liquors													
05. Metals *													
06. Mercury compounds													
07. Cyanides													
08. Phosphorous compounds													
09. Halogenated hydrocarbons	X		X		X								
10. Non-halogenated hydrocarbons	X		X		X		Approx. 144,000 lb/yr.						
11. Solvents	X		X		X								
12. Oils													
13. Plastics													
14. Resins													
15. Paints													
16. Explosives													
17. Radioactive materials													
18. Pathogenic materials													
19. Fluorides													
20. Other inorganic materials													
21. General													

* Chromium, manganese, nickel, zinc, arsenic, selenium, silver, cadmium, antimony, gold, platinum, and lead compounds.

Table 11.

Waste Type	Disposal Practices	On-Site Storage			Waste Projection: By 1983	
		Method	Time Stored	Days	% Increase	% Decrease
		Lagoons	Months			
		Tanks	Weeks			
		Drums	Days			
	Other (Specify)					
	Land Spreading (lbs/yr)					
	Incineration (lbs/yr)					
	Landfill (cu. yds./yr)					
	Lagoons or Ponds (gal/yr)					
	Discharged to Municipal System (gal/yr)					
	Corporate Waste-water Treatment Facilities (gal/yr)					
	Off-Site					
	On-Site					
01. Pesticides						
02. Acids						
03. Caustics						
04. Pickle liquors						
05. Metals*						
06. Mercury compounds						
07. Cyanides						
08. Phosphorous compounds						
09. Halogenated hydrocarbons	X	X	X	X		None
10. Non-halogenated hydrocarbons	X	X	X	X		None
11. Solvents	X	X	X	X		None
12. Oils						
13. Plastics						
14. Resins						
15. Paints						
16. Explosives						
17. Radioactive materials						
18. Pathogenic materials						
19. Fluorides						
20. Other inorganic materials						
21. General						

* Chromium, manganese, nickel, zinc, arsenic, selenium, silver, cadmium, antimony, gold, platinum, and lead compounds.

**Estimate of costs for recordkeeping and administration
of waste disposal programs.**

Secretary time to prepare manifest	20 hours/yr.
Secretary filing	10 hours/yr.
Secretary recordkeeping	10 hours/yr.
Technician time for monitoring	40 hours/yr.
Administration	\$1,000

James A. Rhodes
GOVERNOR



30 East Broad Street 34th Floor
Columbus, Ohio 43215
(614) 466-1805

NDGallagher
Get direction from
Corporate before we
participate
JR
Robert S. Ryan
DIRECTOR
(Code)

28482641
KIMBERLY-CLARK CORP
517 E WATER ST
TROY OH 45373

Attention: Operations Manager

Gentlemen:

This is a request for your participation in an industrial waste utilization study being conducted by Systems Technology Corporation under contract with the Ohio Department of Energy. The result will be a source of statewide information for both producers and potential users of waste for recovery of energy and saving of such nonrenewable fuels as oil and natural gas.

All information provided will be confidential and your specific data will not be disclosed. The Department of Energy will aggregate the data and release it in that form.

The questionnaire enclosed has been designed to reduce your effort in supplying the information we need. Approximate or estimated volumes will be sufficient if exact numbers are not readily available; more important are identification of the categories of waste produced. If you are uncertain about this point, please write "question" in the comment area and you will then be contacted for helping us prepare the necessary information.

Please complete the form as fully as possible, using non-quantitative terms such as "two small truckloads per day" if amounts are unknown. You will be contacted by telephone to clear up doubts concerning exact form and quantity of your waste which is important in the completion of this study.

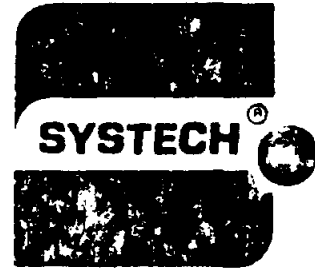
We believe that this project by Systech will provide Ohio industries with information useful in their efforts to conserve energy and reduce operating costs. Your participation is valued and will be appreciated.

Sincerely,

Robert S. Ryan

Enclosure:

John Kevin
1978



specialists in environmental technology
SYSTEMS TECHNOLOGY CORPORATION

245 North Valley Road
Xenia, Ohio 45385
Area Code 513/372-8077
Dayton Toll Free 429-2533

INSTRUCTIONS FOR INDUSTRIAL WASTE QUESTIONNAIRE

1. Area code and telephone number of preparer.
2. Name and title of preparer.
3. Number of employees (only if different than 1979 Ohio Industrial Directory).
4. Annual total expenditure in dollars (no cents) by plant personnel for waste disposal.
5. Annual total expenditure in dollars (no cents) for disposal contracts (include hauler and disposal site fees).
6. Annual special costs -- please describe.
7. Energy types utilized at plant -- percentage if possible.
8. Annual cost of energy consumed in dollars (no cents).
9. Waste description -- Waste materials which may be converted to energy are of prime importance in this survey.

1. Oils	2. Solvents	3. Resins	4. Paints
5. Paper	6. Wood	7. Textiles	8. Food
9. Chemicals	10. Chemical mix	11. Rubber	12. Plastics
13. Other (please describe)			
10. Quantity -- Use terms familiar to your industry.
11. Method of disposal

1. On site	2. Contract haulers
3. Private landfill	4. Municipal collection
5. Others (please describe)	

PLEASE RETURN QUESTIONNAIRE BY DECEMBER 1, 1979.

INDUSTRIAL WASTE UTILIZATION STUDY

Data for 1978

1. TELEPHONE # 513-337-056		2. NAME & TITLE OF PREPARER W.D. Kallagher	
3. EMPLOYEES 278	4. PLANT COSTS 66246	5. CONTRACT COSTS \$47346	6. SPECIAL COSTS & EXPLANATION None
7. ENERGY TYPES UTILIZED <input checked="" type="checkbox"/> OIL 1% <input type="checkbox"/> COAL <input checked="" type="checkbox"/> GAS 77% <input type="checkbox"/> PURCHASED STEAM <input type="checkbox"/> BOILER <input checked="" type="checkbox"/> OTHER ELECTRICITY 22% ELECTRICITY			8. ENERGY COST \$3602
9. WASTE DESCRIPTION Waste solvent and sludge		10. QUANTITY 19,800 gallons / yr	11. DISPOSAL METHOD Incineration site
Waste paper, scrap		QUANTITY 3,700,000 lbs / yr	DISPOSAL METHOD Contract hauler
lumber, waste plastic, paper		QUANTITY	DISPOSAL METHOD to County landfill
COMMENTS			



KIMBERLY-CLARK CORPORATION

TO NICK GALLENGER

BROWN-BRIDGE MILLS

Neenah, December 22, 1975

RE: SOLIDS WASTE OHIO 1975 INDUSTRIAL WASTE MANAGEMENT SURVEY

Dear Nick:

To answer your question of December 18, you should participate in the survey - but very carefully. Results of surveys such as this are fed into computers and there they stay forever and ever. It is easy to have a computer flash warning lights and shoot off rockets by answering a question wrong when actually no problem exists.

I have usually kept the following in mind in answering a questionnaire:

1. Does the party sending it out have the right to ask for this information, or if there is some question as to his legal right, would it be advisable to cooperate anyway? In this case, the answer is "yes" on both counts.
2. What is the purpose of the survey - what would we need if we were doing the job ourselves?

Obviously, in this case they are interested in finding out the magnitude of the problem that the state has due to the existence of your mill - how much of what kind of wastes go to the dumps or sanitary sewers. They aren't interested, for example, in whether or not you have traces of mercury in some raw material that you use that you didn't even know about until someone made a test that showed there was .5 parts per billion present. If you are not using mercury compounds and, to your knowledge, the raw materials are mercury-free, report no mercury. Otherwise, no matter how well you explain that the amount is infinitesimal, the fact that your report showed some to be present will cause the computer to put your mill into the slot of mercury dischargers. I use this just as an example of what can happen if you try to be too careful and stand too straight.

12/22/75

3. It is good practice when in real doubt to leave the space blank. If it is found later that you should have reported it, they will tell you so in a hurry. If there is reasonable cause for doubt, the worst you will get is a reprimand and an order to mend your ways.
4. Leave blank any information that would give away trade secrets. No matter what they promise, your report will still be on file. At least make them come back to you and ask for it again. Eventually, you may have to comply, but they will know that you've made quite a fuss and that it's all recorded on paper and so they will be more careful.
5. Be very careful to see that this questionnaire agrees with others put out by the mill. It could be extremely embarrassing to find that you had told the City of Troy one thing and this questionnaire another. Of course, things do change, but if this is the case, be sure that you keep in your own files notes on the assumptions made and that if these were different than for previous questionnaires, that you give the reason as to why they were different. Almost always, some different individual from the one who did it two or three years ago fills out the report. Some assumptions always have to be made, and he should know what these were in the past.

This has been a very long answer to a very short question, but I have seen so much confusion and needless time spent in correcting errors that I want to be sure these points are called to your attention.

Merry Christmas!



R. M. Billings
Director of Environmental Control

/p

EPA

N. D. Gallagher

December 18, 1975

Richard M. Billings

OHIO EPA's 1975 INDUSTRIAL
WASTE MANAGEMENT SURVEY

Dear Mr. Billings,

We have received the enclosed survey request from
the Ohio EPA.

Please advise if we should participate?

Thank you.

NDG:ewc

June 21, 1976

James A. Rhodes
Governor
Ned E. Williams, P.E.
Director

N D GALLAGHER
BROWN-BRIDGE MILLS INC
518 E WATER ST
INDY
OHIO 45373

OhioEPA

Dear Sir:

I want to thank you for your cooperation in the recent Ohio Industrial Waste Mail Survey conducted by the agency last November. Thanks to your efforts to respond, the survey has provided some very useful information.

Considerable work remains to be done on interpretation of the data you have provided. However, the following represent some initial findings:

Gross Figures - Waste Disposal:

(1) disposal in ponds or lagoons	2.2 billion gal./yr.
(2) disposal in landfills	15.6 million cu.yds./yr.
(3) disposal by incineration	36.9 million lbs./yr.
(4) disposal by landspreading	151.3 million lbs./yr.

Gross Figures - Waste Generation:

(1) pickle liquor	45 million gal./yr.
(2) polychlorinated biphenyl	8000 lbs./yr.
(3) waste oil	18 million lbs./yr.
(4) organic chemical waste	15 million gal./yr.
(5) waste solvents	5 million lbs./yr.

More detailed reports will be released as time permits, however, rest assured that no firms will be identified and all requests for confidential treatment of information will be respected.

Thank you again for your excellent cooperation.

Very truly yours,


Ned E. Williams, P.E.
Director

NEW/pd

June 21, 1976

James A. Rhodes
Governor
Ned E. Williams, P.E.
Director

N D GALLAGHER
BROWN-BRIDGE MILLS INC
510 E WATER ST
TROY
OHIO 45373



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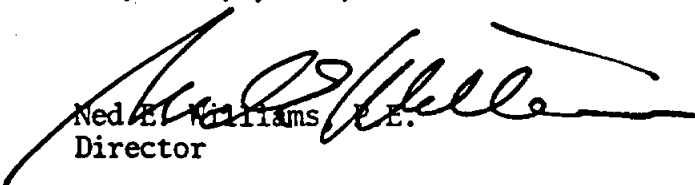
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More detailed reports will be released as time permits, however, rest assured that no firms will be identified and all requests for confidential treatment of information will be respected.

Thank you again for your excellent cooperation.

Very truly yours,


Ned E. Williams, P.E.
Director

NEW/pd



State of Ohio Environmental Protection Agency

November 24, 1975

James A. Rhodes, Governor
Ned E. Williams, P.E., Director

Dear Sir:

The Ohio Environmental Protection Agency is conducting a survey of great importance to your industry. Results of the survey will be used to provide our state legislature with an accurate assessment of the current needs of industry to safely dispose of or reclaim industrial wastes.

This survey is concerned with wastes which may be going on or off site to: lagoons, landfills, energy recovery systems, reclamation for reuse, or some other off-site contract disposal operation. If your company feels that specific survey items are of a proprietary nature, we encourage you to so indicate on the survey form. When a request for confidentiality is received we will protect it as confidential information.

The Ohio EPA will not use any of the information you provide pertinent to this survey in any civil or criminal enforcement action. This effort is not intended to harass industry but rather to assist you in the solutions of community and state-wide problems.

If our office can be of any assistance in your answering this survey we welcome your calls to Don Brown or Wendell McElwee, phone (614) 466-8934.

Thank you for your cooperation.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Ned E. Williams".

Ned E. Williams, P.E.
Director

NEW/pd

77E62

OHIO ENVIRONMENTAL PROTECTION AGENCY
Office of Land Pollution Control
Division of Hazardous Waste Control

Ohio 1975 Industrial Waste Management Survey

(Please type or print in ink all responses)

SXC CCDE 2641 11329
BROWN-BRIDGE MILLS INC
ATTN PLANT MANAGER
518 E WATER ST
TROY OH 45373

- A. If company name or address above is incorrect, please cross out erroneous information and enter corrections below:

Company Name: _____

Company Address: (street address) _____

(city) _____ (zip code) _____

- B. County in which company is located: Miami
(please do not abbreviate)

- C. Name of person responding to survey: N. D. Gallagher

Title: Technical Director Telephone: 513 / 335-0561
(area code) (number)

- D. Please check (✓) box if your company does not generate any of the wastes listed in Table I on page 2 of this survey. If this box is checked, please complete the mailing information (A, B, C above), provide name, title and signature below and return. See page 3 for return mailing.

☐ _____
(name) (title) (signature)

- E. Please check (✓) box if your company will be responding to none of the questions in the survey. If this box is checked, please complete the mailing information (A, B, C above), provide name, title and signature below and return. See page 3 for return mailing.

☐ _____
(name) (title) (signature)

- F. If confidential status is required for any answers provided in the survey, please indicate those items by placing a check (✓) in the box provided for each item in the left margin. Any item thus checked will be assured of confidentiality.

* * * * *

NOTE: In responding to the survey, please express numeric values in whole numbers; e.g., 100,000 lbs., not 10^5 lbs. or \$3000, not \$2812.84.

TABLE I.

INSTRUCTIONS for completing TABLE I.:

- (1) Please complete the table even though outside handlers dispose of your wastes.
 (2) Under DISPOSAL SYSTEM AND QUANTITY, please indicate the quantity of the industrial waste that is disposed of by the method cited, if applicable.
 (3) Under TREATMENT EMPLOYED, please check (✓) your method of treatment, if applicable.
 (4) Please indicate N/A (not available) for the applicable waste categories and waste quantities if no estimate can be made available at this time.
 (5) Under PHYSICAL STATE, please check (✓) the form of waste when disposed.

NOTE: Please ensure that values given under DISPOSAL SYSTEM AND QUANTITY correspond to the specified units of measurement.

INDUSTRIAL WASTE CATEGORY	PHYSICAL STATE			DISPOSAL SYSTEM AND QUANTITY						TREATMENT EMPLOYED					
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
01. Pesticides															
02. Acids															
03. Caustics															
04. Pickle Liquors															
05. Metals such as Cu.. Cr.. Cd.. Ni.. Pb.. or Se.															
06. Mercury Compounds															
07. Cyanides															
08. Phosphorous Compounds															
09. Other Inorganic Chemicals															
10. Polychlorinated Biphenyl															
11. Oils															
12. Plastics															
13. Solvents	x	x													
14. Resins															
15. Paints															
16. Explosives															
17. Other Organic Chemicals			x				N/A								
18. Infectious Materials															

Request Confidential Status

- ☒ 19. Total internal expenditures for industrial waste management function (include labor and operation costs for processing, storage, collection and disposal ex. capital)
\$ 47,000 /year
55,000 (1977) 28,509 (1977)
- ☒ 20. Total annual return from internal salvage: \$ 40,000 /year
- ☒ 21. Total annual charges by external industrial waste handlers: (total dollars/year)
(a) Contract haulers: \$ 7,000 (b) Private landfill operators: \$ _____
(c) Municipal refuse collection: \$ _____
11,292 (1977)
- ☒ 22. Total annual return from external salvage: \$ 7,000 /year
- ☒ 23. Do you utilize storage lagoons or ponds as part of your waste system? YES ☒ NO _____
- ☒ 24. If you answered YES to item #23 above, please enumerate the total combined volume for lagoons or ponds: Total combined volume 12,000 gal. Indicate address of pond or lagoon if different from company address: (street) _____
(city) _____ (state) _____
- ☒ 25. If you utilize private contractors to dispose of your industrial wastes, please name your current contractor(s) and the location of their treatment or disposal centers:
- | | | |
|--------------------------------|------------|---------|
| Commercial Waste Removal, Inc. | Piqua | Ohio |
| (a) (name) | (city) | (state) |
| Jay Foster | Troy | Ohio |
| (b) | | |
| Klor-Kleen, Inc. | Cincinnati | Ohio |
| (c) | | |
- ☒ 26. Approximately how many miles must your industrial waste in Table I be shipped for its disposal or recycling: 35 miles (please round to nearest mile.)
- ☐ 27. If the ultimate disposal, recycling or storage occurs in another state(s), please indicate the state(s): _____
(a) _____ (b) _____ (c) _____
- ☒ 28. If your company utilizes outside contractors, do you feel that your total costs for handling and processing your industrial wastes are: (please check one)
(a) reasonable _____ (b) moderately expensive ☒ (c) excessive _____
- ☒ 29. Do you feel that there is currently a need for more regional energy recovery, recycling and industrial waste treatment centers? YES _____ NO ☒
- ☐ 30. To control the incidence of such surveys as this, we would like to have an estimate of the approximate total costs expended to answer this survey: \$ _____

In addition to the information provided in the survey above, we would appreciate your taking the time to provide us with more detailed data.

- (1) Please briefly elaborate on the detailed chemical characteristics, concentrations, acidity, etc., of the wastes which your company disposes of, as checked in Table I.
 - (2) Please provide this information on your company letterhead and attach it to the survey form. All responses supplied on your letterhead will be kept confidential.
 - (2) Please also indicate on your letterhead the types of personal safety handling techniques your company uses in disposing of the wastes checked in Table I.
 - (3) Please include any additional information or remarks you may wish to convey.
- Thank you for your careful consideration. Please return the survey and attachments in the enclosed envelope to:

Don Brown, Hazardous Waste Control Division
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216



State of Ohio Environmental Protection Agency

November 24, 1975

James A. Rhodes, Governor
Ned E. Williams, P.E., Director

Dear Sir:

The Ohio Environmental Protection Agency is conducting a survey of great importance to your industry. Results of the survey will be used to provide our state legislature with an accurate assessment of the current needs of industry to safely dispose of or reclaim industrial wastes.

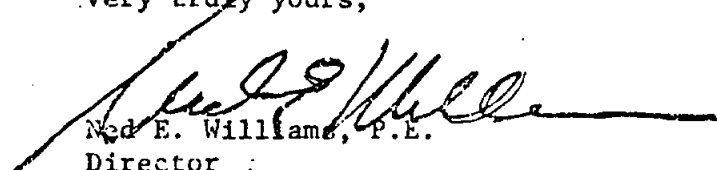
This survey is concerned with wastes which may be going on or off site to: lagoons, landfills, energy recovery systems, reclamation for reuse, or some other off-site contract disposal operation. If your company feels that specific survey items are of a proprietary nature, we encourage you to so indicate on the survey form. When a request for confidentiality is received we will protect it as confidential information.

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If our office can be of any assistance in your answering this survey we welcome your calls to Don Brown or Wendell McElwee, phone (614) 466-8934.

Thank you for your cooperation.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Ned E. Williams".

Ned E. Williams, P.E.
Director

NEW/pd

OHIO ENVIRONMENTAL PROTECTION AGENCY
Office of Land Pollution Control
Division of Hazardous Waste Control

Ohio 1975 Industrial Waste Management Survey

(Please type or print in ink all responses)

SIC CODE 2641 11329
BROWN-BRIDGE MILLS INC
ATTN PLANT MANAGER
518 E WATER ST
TROY OH 45373

- A. If company name or address above is incorrect, please cross out erroneous information and enter corrections below:

Company Name: _____

Company Address: (street address) _____

(city) _____ (zip code) _____

- B. County in which company is located: MIAMI
(please do not abbreviate)

- C. Name of person responding to survey: N D GALLAGHER

Title: TECHNICAL DIRECTOR Telephone: 513 / 535-0561
(area code) (number)

- D. Please check (✓) box if your company does not generate any of the wastes listed in Table I on page 2 of this survey. If this box is checked, please complete the mailing information (A, B, C above), provide name, title and signature below and return. See page 3 for return mailing.

☐ _____
(name) (title) (signature)

- E. Please check (✓) box if your company will be responding to none of the questions in the survey. If this box is checked, please complete the mailing information (A, B, C above), provide name, title and signature below and return. See page 3 for return mailing.

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(name) (title) (signature)

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* * * * *

NOTE: In responding to the survey, please express numeric values in whole numbers; e.g., 100,000 lbs., not 10^5 lbs. or \$3000, not \$2812.84.

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NOTE: Please ensure that values given under DISPOSAL SYSTEM AND QUANTITY correspond to the specified units of measurement.

INDUSTRIAL WASTE CATEGORY	PHYSICAL STATE			DISPOSAL SYSTEM AND QUANTITY						TREATMENT EMPLOYED					
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
01. Pesticides															
02. Acids															
03. Caustics															
04. Pickle Liquors															
05. Metals such as Cu.. Cr.. Cd.. Ni... Pb... or Se.															
06. Mercury Compounds															
07. Cyanides															
08. Phosphorous Compounds															
09. Other Inorganic Chemicals															
10. Polychlorinated Biphenyl															
11. Oils															
12. Plastics															
13. Solvents	✓														
14. Resins															
15. Paints															
16. Explosives															
17. Other Organic Chemicals			✓												
18. Infectious Materials															

Request Confidential Status

- ☒ 19. Total internal expenditures for industrial waste management function (include labor and operation costs for processing, storage, collection and disposal ex. capital)
\$ 47,000 /year
- ☒ 20. Total annual return from internal salvage: \$ 40,000 /year
- ☒ 21. Total annual charges by external industrial waste handlers: (total dollars/year)
(a) Contract haulers: 7000 (b) Private landfill operators: \$
(c) Municipal refuse collection: \$
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- ☒ 24. If you answered YES to item #23 above, please enumerate the total combined volume for lagoons or ponds: Total combined volume 12,000 gal. Indicate address of pond or lagoon if different from company address: (street)
(city) (state)
- ☒ 25. If you utilize private contractors to dispose of your industrial wastes, please name your current contractor(s) and the location of their treatment or disposal centers:
- | | | |
|-------------------------------------|-------------------|-------------|
| <u>Commercial Waste Removal Inc</u> | <u>Piquette</u> | <u>Ohio</u> |
| (a) (name) | (city) | (state) |
| <u>Jay Foster</u> | <u>Troy</u> | <u>Ohio</u> |
| (b) | | |
| <u>Klein Klein Inc</u> | <u>Cincinnati</u> | <u>Ohio</u> |
| (c) | | |
- ☒ 26. Approximately how many miles must your industrial waste in Table I be shipped for its disposal or recycling: 35 miles (please round to nearest mile.)
- ☐ 27. If the ultimate disposal, recycling or storage occurs in another state(s), please indicate the state(s): (a) (b) (c)
- ☒ 28. If your company utilizes outside contractors, do you feel that your total costs for handling and processing your industrial wastes are: (please check one)
(a) reasonable (b) moderately expensive ☒ (c) excessive
- ☒ 29. Do you feel that there is currently a need for more regional energy recovery, recycling and industrial waste treatment centers? YES NO ☒
- ☐ 30. To control the incidence of such surveys as this, we would like to have an estimate of the approximate total costs expended to answer this survey: \$

* * * * *

In addition to the information provided in the survey above, we would appreciate your taking the time to provide us with more detailed data.

- (1) Please briefly elaborate on the detailed chemical characteristics, concentrations, acidity, etc., of the wastes which your company disposes of, as checked in Table I.
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- (3) Please include any additional information or remarks you may wish to convey.

Thank you for your careful consideration. Please return the survey and attachments in the enclosed envelope to:

Don Brown, Hazardous Waste Control Division
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216

Assumptions in Completing OEPA Survey

Table 1

Solvents: Sludge from dry graining
Trichloroethylene
Sludge from hot melt

Incineration
lbs/yr

~~2300~~ to Comm.
Waste
Removal.

$$\begin{array}{r} 2128.60 \\ \times .14/\text{gal} \\ \hline = 15204 \text{ gal.} \end{array}$$

*
16445
13915
17250
54005
18400
32200
60645

$$\begin{array}{r} 15204 \\ \times 8.8 \text{ \$/gal} \\ \hline 134,000 \text{ \$/yr.} \end{array}$$

212860*

Commercial
Waste
Removal
Shed

19

Labor Barling room \$18,390

Solvent Recovery unit \$14,000

\$32390

Maintenance 15220

For H&S pay As-to \$ 47000

For DCHP / DPPM.

20

33682 room T.M.

7122 room DCHP + DPP

\$40,000

21

JAT Foster 4500

Cor w Rend 2128

KL Klen 411-

\$7000

22

132.00 *
217.80
66.00

Summer \$6552.00
Credit

\$7000

41580 *

Klen
at

White House

Assumptions in Completing OEPA Survey

Table 1

Substrates: Sludge from dry gunning
Trickling filter
Sludge from hot melt

Incineration
lbs/yr

~~2200~~ to Comm.
Waste
Removal.

$$\begin{array}{r} 2128.60 \\ \times .14/\text{gal} \\ \hline = 15204 \text{ gal.} \end{array}$$

164.45
139.15
172.50
540.05
184.00
32200
606.45

$$\begin{array}{r} 15204 \\ \times 8.8 \text{ \$/gal} \\ \hline 134,000 \text{ \$/yr.} \end{array}$$

212860 *

Commercial
Waste
Removal
Subst

SPEED LETTER®

TO Richard M. Billings

FROM N. Gallagher

SUBJECT _____

— No. 9 & 10 FOLD

MESSAGE

DATE 6-23-76 1976

Here is a report on the mail survey we responded to last December.

Best regards

Nick.

Nick

SIGNED _____

REPLY

DATE _____ 19 _____

— No. 9 FOLD

— No. 10 FOLD

SIGNED _____

 "SNAP-A-WAY" FORM 44-902 3 PARTS
JONES COMPANY • © 1961 • PRINTED IN U.S.A.

1273

SEND ORIGINAL AND RETURN YELLOW COPY. SEND WHITE AND PINK COPIES WITH CARBON INTACT





KIMBERLY-CLARK CORPORATION

TO Elmer Dickson

Director of Occupational Safety and Health

1/11/78

RE: OHIO 1977 INDUSTRIAL WAST
MANAGEMENT SURVEY

Here is a copy of our response to subject survey.

Nick Gallagher

Nick Gallagher
Technical Director

cc: J. S. Rausch

NDG/11b



BROWN - BRIDGE
A Division of Kimberly-Clark
Troy, Ohio 45373

1/11/78

Battelle Columbus Laboratories
505 King Ave.
Columbus, Ohio 43201

Attn: Ms. Shirley J. Smith
Researcher

Dear Ms. Smith:

Here is our response to the 1977 Industrial Waste Management Survey
you provided to us under a covering letter of December 7, 1977.

Sincerely

N. D. Gallagher
N. D. Gallagher
Technical Director

cc: J. S. Rausch

NDG/11b

Ohio 1977 Industrial Waste Management Survey

I. General Information

- 1. Company Name: Brown-Bridge. A Division of Kimberly-Clark Corporation.**

2. Mailing Address: P. O. Box 370 Troy, Ohio 45373
Street City Zip Code

3. Plant Location:	517 E. Water St.	Troy, Ohio	Miami	45373
	Street	City	County	Zip Code

4. Person Responsible for
Plant Operations: Roger E. Yount
Name
Operations Manager 513-339-0561 EXT. 251
Title Phone

5. Person Providing Information: N. D. Gallagher
Name
Research Director 513-339-0561 EXT. 220
Title Phone

6. Principal Products and Their Standard Industrial Classification Codes (SIC):

Products	SIC	Amount or % of Total Production
a. <u>Adhesive coated paper, cloth</u> film and foil	<u>26-41</u>	<u>100</u>
b. _____	_____	_____
c. _____	_____	_____
d. _____	_____	_____

7. Processes Used at Plant:

Product	Processes
a. <u>Water-sensitive adhesive coatings</u>	--Aqueous and solvent coating.
b. <u>Heat-sensitive adhesive coatings</u>	---Aqueous and hot-melt coating.
c. <u>Pressure-sensitive adhesive coatings</u>	--Aqueous and hot-melt coatings.
d.	

8. Raw Materials and Other Chemicals Used in Manufacturing Processes:

- a. Paper, Cloth, Film and Foil e. Solvents, Plasticizers DCHP DPP
 b. Emulsion polymers f. Animal glues
 c. Thermoplastic resins g. Clays, Stabilizers and Process aides.
 d. Starches, dextrines h. Solution polymers.

II. Treatment Facilities

1. On-Site Wastewater Treatment Facilities: Yes _____ No X
 a. NPDES No.: OH 0010626
 b. On-Site Wastewater Treatment Facilities by 1983: Yes _____ No X
 2. Industrial Municipal Discharge: Yes X No _____
 a. Name of Plant: Troy Municipal Plant
 b. Pretreatment: Yes X No _____
 c. Industrial Municipal Discharge by 1983: Yes X No _____
 3. Air Pollution Control Facilities: Yes X No _____
 a. Types: Carbon absorption solvent recovery.
 b. Air Permit Nos.: 0855140083P001, 0855140083P002
 c. Air Pollution Control Facilities by 1983: Yes _____ No _____
 4. In-House Waste Treatment Capabilities: Paper balers, solid plasticizer
recovery unit.

5. Is there any currently used or abandoned landfill, dump, or lagoon on plant property?: Yes _____ No X

Currently Used

Abandoned

a. Landfill

b. Dump

c. Lagoon

6. Attach sketch of treatment facilities including storage areas. (For site inspections only).

III. Storage Area Practices

1. Area Diked: Yes X No _____
2. Drainage Collection System: Yes X No _____

IV. Off-Site Disposal

1. Waste hauled off site by: You _____ Others X
2. Contract hauler utilized:

Name

Address

a. Commercial Waste Removal Inc.*Piqua, Ohiob. Sussman Inc. **Piqua, Ohioc. Raymond Ferguson ***Troy, OhioAvey Service Inc. ***Troy, Ohio

3. Private Contractors and/or Municipal Landfills Utilized:

Name

Address

a. * Waste solvent and sludge

b. ** Waste paper

c. *** Scrap lumber, waste plasticizer powder

4. Approximately how many miles must your industrial waste in Tables I and II for its disposal or recycling: do not know miles (please round to nearest mile).

V. Costs

1. Total internal expenditures for industrial waste management function (include and operation costs for processing, storage, collection and disposal ex. capital)
\$ 115,000 /Year
2. Total annual return from internal salvage: \$ 85,200 /Year
3. Total annual charges by external industrial waste handlers: (total dollars/year) (a) Contract haulers: \$ 11,292 (b) Private landfill operators: \$ _____ (c) Municipal refuse collection \$ _____
4. Total annual return from external salvage: \$ 28,000 /Year
5. If your company utilizes outside contractors, do you feel that your total costs for handling and processing your industrial wastes are:
 - (a) Reasonable X
 - (b) Moderately expensive _____
 - (c) Excessive _____

VI. Industrial Waste Exchange Program and Waste Treatment Centers

1. Do you feel your company would use the services provided by an industrial waste exchange program? Yes X No _____
2. Do you feel that there is a need for regional energy recovery, recycling, and industrial waste treatment centers?: Yes X No _____

Table I.

Waste Type	Physical State			Frequency of Waste Production				On-Site Treatment Employed					
	Liquid	Solid	Sludge	Seasonal	Continual	Occasional	Other (Specify)	Neutralization	Chemical Precipitation	Recipitation by Evaporation	Oxidation or Reduction	Recycling or Waste Recovery	Biological Oxidation
01. Pesticides													
02. Acids													
03. Caustics													
04. Pickle liquors													
05. Metals*													
06. Mercury compounds													
07. Cyanides													
08. Phosphorous compounds													
09. Halogenated hydrocarbons	X		X		X								
10. Non-halogenated hydrocarbons	X		X		X		Approx. 144,000 lb/yr.						
11. Solvents	X		X		X								
12. Oils													
13. Plastics													
14. Resins													
15. Paints													
16. Explosives													
17. Radioactive materials													
18. Pathogenic materials													
19. Fluorides													
20. Other inorganic materials													
21. General													

* Chromium, manganese, nickel, zinc, arsenic, selenium, silver, cadmium, antimony, gold, platinum, and lead compounds.

Table 11.

Waste Type	Disposal Practices	On-Site Storage			Waste Projection By 1983
		Method	Time Stored		
			Lagoons Tanks Drums Other (Specify)	Months Weeks Days	
	Land Spreading (lbs/yr)				
	Incineration (lbs/yr)				
	Landfill (cu. yds./yr)				
	Lagoons or Ponds (gal/yr)				
	Discharged to Municipal System (gal/yr)	Approx. 368,000 gal/yr process wash up sewage.			
	Corporate Waste-water Treatment Facilities (gal/yr)	Approx. 368,000 gal/yr sanitary sewage.			
	Off-Site				
	On-Site				
01. Pesticides					
02. Acids					
03. Caustics					
04. Pickle liquors					
05. Metals *					
06. Mercury compounds					
07. Cyanides					
08. Phosphorous compounds					
09. Halogenated hydrocarbons			X	X	None
10. Non-halogenated hydrocarbons			X	X	None
11. Solvents			X	X	None
12. Oils					
13. Plastics					
14. Resins					
15. Paints					
16. Explosives					
17. Radioactive materials					
18. Pathogenic materials					
19. Fluorides					
20. Other inorganic materials					
21. General					

* Chromium, manganese, nickel, zinc, arsenic, selenium, silver, cadmium, antimony, gold, platinum, and lead compounds

**Estimate of costs for recordkeeping and administration
of waste disposal programs.**

Secretary time to prepare manifest	20 hours/yr.
Secretary filing	10 hours/yr.
Secretary recordkeeping	10 hours/yr.
Technician time for monitoring	40 hours/yr.
Administration	\$1,000

Exhibit 2

Brown-Bridge Wastes
Sent to the
Miami County Incinerator Landfill

EXHIBIT 2

BROWN-BRIDGE WASTES
SENT TO
MIAMI COUNTY INCINERATOR LANDFILL

	TYPE OF WASTE	TIME PERIOD TO MIAMI COUNTY	PRINCIPAL CONSTITUENTS	ESTIMATED VOLUME GENERATED	CONTAINERS	DELIVERY METHOD	HAULER
1.	Waste Papers & Lumber (non- hazardous)	1/1/75 to 10/31/78	Waste Adhesive Coated Papers Waste Kraft Papers Lumber Skids Pallets	17,500 lbs/mo.	Containers, 40 cu.yd.	Contract Haulers	Jay Foster Raymond Ferguson Avey Svcs., Inc. Sussman, Inc.
2.	Heat Seal Coater Waste Powder (non- hazardous)	1/1/68 to 10/31/78	Ground Powders containing: Diphenyl Phthalate and/or Dicyclohexyl Phthalate, Each Containing 12-15% SiO ₂	2,000 lbs/mo.	Containers, 40 cu.yd. (in Fiber or Steel Drums)	Contract Haulers	Jay Foster Raymond Ferguson Avey Svcs., Inc. Sussman, Inc.
3.	Incinerator Ash (non- hazardous)	1/1/68 to 1/1/75	Ashes derived from incineration of: Adhesive Coated Papers Kraft Papers Lumber Skids Pallets	2,000 lbs/mo.	Steel & Fiber Drums (Steel Drums Reused)	Contract Haulers	Jay Foster Raymond Ferguson
4.	Solvent Coater Liquid Wastes	1/1/68 to 12/31/71	°Toluene Animal Glue or Modified Starch °Methanol Acrylic Ester Polymer °Isopropanol Citric Acid °Saccharin FD&C Blue No. 1 Water	200-250 gal/mo.	Steel Drums (Reused)	Contract Haulers	Jay Foster

	<u>TYPE OF WASTE</u>	<u>TIME PERIOD TO MIAMI COUNTY</u>	<u>PRINCIPAL CONSTITUENTS</u>	<u>ESTIMATED VOLUME GENERATED</u>	<u>CONTAINERS</u>	<u>DELIVERY METHOD</u>	<u>HAULER</u>
5.	Heat Seal Coater Waste Sludge	1/1/68 to 12/31/75	Dicyclohexyl Phthalate Diphenyl Phthalate Styrene Butadiene Rubber Polystyrene Chloroprene Rubbers Acrylonitrile Butadiene Rubber Coumarone Indene Resins Phenolic Resins-Form- aldehyde Modified Coumarone Indene - Phenolic Modified Petroleum Wax Ethylene Vinyl Acetate Resin Acrylonitrile Butadiene Styrene Resin Polyethylene Resin Epoxy Resins Silicon Dioxide Alphamethyl styrene - vinyl toluene resin °Trichloro- ethylene °1,1,1-Tri- chloroethane	500 gal/mo.	Steel Drums (discarded)	Contract Haulers	Jay Foster Raymond Ferguson

°Denotes hazardous wastes regulated under the Federal Resource Conservation and Recovery Act and/or hazardous substances within the meaning of CERCLA.

Exhibit 3

Prinicpal Components of
Brown-Bridge Wastes
Sent to the
Miami County Incinerator Landfill

Exhibit 3A

Solvent Coater Liquid Wastes

SECTION VI. HEALTH HAZARD INFORMATION

TLV 100 ppm (skin) (See Sect. II)

Vapor inhalation can produce headache and slight drowsiness at 100 ppm, fatigue, nausea and itching skin at 100-200 ppm, anesthetic effects and respiratory tract and eye irritation above 200 ppm. Absorption can occur through the skin, and liquid contact will cause defatting of the skin, with possible dermatitis from repeated or prolonged contact. Eye contact is irritating and can be damaging (corneal burns). Ingestion irritates the digestive tract and results in systemic effects from absorption.

FIRST AID:

Eye Contact: Immediately irrigate with water for 15 minutes. Get medical help.

Skin Contact: Wash area with soap & water; remove contaminated clothing promptly. Get medical help if irritation persists or if large areas of skin were exposed.

Inhalation: Remove to fresh air; restore breathing and give oxygen if needed. Get medical help!

Ingestion: Get medical help as soon as possible! When victim is conscious, give USP mineral oil to drink. (Aspiration is a potential hazard if vomiting occurs!)

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Report large spills to safety personnel. Remove ignition sources; provide explosion-proof ventilation. Those involved in clean-up must use protection against liquid contact and vapor inhalation. Pick up liquid when feasible, or absorb on vermiculite or similar, and sweep up with nonsparking tools into a metal container with cover. Liquid can be flushed with a water spray to an open holding area for handling. Do not flush to sewer, to a confined space, or to a watercourse!

Recovery: Consider reclaiming by distillation or disposal via a licensed waste disposal company. Scrap may be incinerated under properly controlled conditions. Follow federal, state and local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide general and exhaust ventilation to meet TLV requirements. Ventilation fans & other electrical service must be nonsparking and explosion proof. Exhaust hoods should have 2100 lfm face velocity and be designed to capture heavy vapors. Exposure above the TLV for nonroutine and emergency situations requires use of an organic chemical cartridge respirator up to 200 ppm; above 200 ppm a full face piece is required with an approved canister-type gas mask or self-contained breathing equipment. Safety goggles or glasses should be worn in areas of use. Impermeable (neoprene has been recommended) gloves and apron, face shield, and other protective clothing may be needed to prevent skin contact during use, especially where splashing may occur. A safety shower should be available if splashing is possible. A safety shower and eyewash station should be available.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store in cool, clean, well-ventilated area away from sources of heat and ignition and away from oxidizing agents. Area must meet requirements of OSHA Class IB liquid. No smoking, open flame or fire or use. Nonsparking tools should be used near toluene. Use proper care in handling small amounts. Ground and bond metal containers for liquid to prevent static sparks. Protect containers from physical damage. Pre-employment and periodic medical exams emphasizing the liver, kidneys, nervous system, lungs, heart and blood should be provided. At least an annual exam is recommended for those exposed above the action level (50 ppm). Use of alcohol can aggravate the narcotic effect and blood effects of toluene.

MSDS CODE: 1-9, 12, 20, 21, 25, 26

APPROVALS: MHS, (COP)

Industrial Hygiene
and Safety:

MEDICAL REVIEW: 12/79

General Electric Company does not accept any liability for personal injury or property damage resulting from the use of this product. The user, through reasonable care, has the responsibility for the proper use of this product. General Electric Company does not accept any liability for personal injury or property damage resulting from the use of this product. The user, through reasonable care, has the responsibility for the proper use of this product.

MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305

Phone: (518) 385-4035

DIAL CODE 8*235-4083

MS
MATERIALS SERVICES
INFORMATION

No. 317

TOLUENE

Revision C

Date August 1979

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: TOLUENE

OTHER DESIGNATIONS: Toluol, Methylbenzene, Phenylmethane, $\text{CH}_3\text{C}_6\text{H}_5$, GE Material 35011, ASTM D362 and D841, CAS# 000 108 883

MANUFACTURER: Available from many suppliers, including Shell Chemical Co. and Sun Oil Co.

SECTION II. INGREDIENTS AND HAZARDS

Toluene

ca 100

HAZARD DATA

8-hr TWA 100 ppm (skin)*
or 375 mg/m^3

Human, inhalation
TCLo 200 ppm
(central nervous syst.)

Rat, inhalation
LCLo 4000 ppm/4 hr

Rat, oral
LD₅₀ 5000 mg/kg

*ACGIH (1978); (skin) notation indicates a potential contribution to overall exposure via skin absorption. OSHA/NIOSH (1976) proposed an 8-hr TWA of 100 ppm, with a 15 minute ceiling of 200 ppm, and an action level of 50 ppm. Current OSHA TLV is 200 ppm.

SECTION III. PHYSICAL DATA

Boiling point, 1 atm, deg F (C) ---	231 (110.6)	Specific gravity (Water=1) --	0.866
Vapor pressure @ 25 C, mm Hg -----	28	Volatiles, % -----	100
Vapor density (Air=1) -----	3.2	Evaporation rate (BuAc=1) --	1.9
Solubility in water, % -----	0.05	Molecular weight -----	92.15

Appearance & Odor: Water white liquid with a characteristic aromatic odor, whose recognition threshold (unfatigued) is 2-5 ppm (100% of test panel). Odor detection is unsatisfactory for safety because of fatigue.

SECTION IV. FIRE AND EXPLOSION DATA

LOWER UPPER

Flash Point and Method	Autoignition Temp.	Flammability Limits in Air
60 (14 C) Closed cup	(536 C) 997 F	% by volume

1.1

7

Extinguishing Media: Carbon dioxide, dry chemical, foam, and water fog. Water may be ineffective for putting out fire, but use spray to cool fire-exposed containers.

At room temperature, toluene emits vapors that can form flammable mixtures with air. It is a dangerous fire hazard and a moderate explosion hazard when exposed to heat and flame. Vapors can flow along surfaces to distant ignition sources, then flash back.

Firefighters should wear self-contained breathing apparatus and eye protection when fighting toluene fires.

SECTION V. REACTIVITY DATA

Toluene is a stable material under normal storage and handling. It does not undergo hazardous polymerization.

Since toluene is a flammable liquid, avoid contact with heat, sparks or open flames.

Avoid contact with strong oxidizing agents. Nitric acid and toluene, especially in combination with sulfuric acid, will produce nitrated compounds which are dangerously explosive.

Oxidation in air can form oxides of carbon and nitrogen.

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 1218-1047

MATERIAL SAFETY DATA SHEET

Required under USOL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I		See Attached Comments
MANUFACTURER'S NAME		EMERGENCY TELEPHONE NO.
National Starch and Chemical Corporation		201 755-4100
ADDRESS (Number, Street, City, State, and Zip Code)		
10 Finderne Avenue, Bridgewater, New Jersey 08807		
CHEMICAL NAME AND SYNONYMS		TRACE NAME AND SYNONYMS
N/A (Not Applicable)		NATIONAL 1687 (50-1687)
CHEMICAL FAMILY	FORMULA	
N/A	N/A	

SECTION II - HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)

SECTION III - PHYSICAL DATA			
BOILING POINT (°F)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	N/A
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY WEIGHT 3	approx. 7
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (<u> </u> %)	N/A
SOLUBILITY IN WATER	a 185°F Completely dispersible		
APPEARANCE AND ODOR	Off-white powder, cereal odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method Used)	FLAMMABLE LIMITS		
N/A			
EXTINGUISHING MEDIA			
Water fog, foam, CO ₂			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			
See attached for dust explosion hazards			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

N/A

EFFECTS OF OVEREXPOSURE

Eyes: Irritation from foreign body. Skin: Dust irritation. Inhalation: Discomfort of respiratory passages.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Flush with water. Skin: Wash with water. Obtain medical assistance for unusual exposures.

SECTION VI - REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Sweep up, avoid creating dust.

WASTE DISPOSAL METHOD

In accordance with federal and/or state regulations covering solid waste disposal.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

Dust mask for irritant dust.

VENTILATION

LOCAL EXHAUST

SPECIAL

Recommended

MECHANICAL (General)

OTHER

Recommended

PROTECTIVE GLOVES

Not normally required

EYE PROTECTION

Goggles for protection from irritant dust

OTHER PROTECTIVE EQUIPMENT

Clothes suitable for irritant dust protection.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid creating dust.

OTHER PRECAUTIONS

Store in cool dry place.

NATIONAL 1687

(50-1687)

This material is a starch product and supplied as a dry powder. It contains no organic solvents or highly toxic materials. With respect to plant handling it is not a hazardous substance from the standpoint of ingestion, dermal toxicity or dermal irritation.

With respect to eye contact or inhalation, the main concern would be the possible irritation if any powder were to get into the eye or inhaling excessive amounts of dust. If the powder gets into the eye, flush out with water. Inhalation of the dust may cause discomfort of the respiratory passages. The dust of this product is classified as an inert or nuisance dust with respect to inhalation, and the following TLV's (threshold limit values) for the work-room atmosphere apply:

	<u>Mppcf</u>	<u>Mg/m³</u>
Respirable fraction	15	5
Total Dust	50	15

This starch product should be handled in a manner to minimize dust and a possible explosion hazard. The following values for corn starch at 7% moisture would be applicable:

Minimum ignition temperature of dust clouds is approximately 390°C.

Minimum explosive concentration is approximately 70 mg. per liter.

Minimum energy to ignite dust cloud by electrical spark is approximately 0.06 joules.

When dissolved in water for use, the resultant solution has a pH of approximately 5. On prolonged or continuous skin contact there could be drying or chapping of the skin, especially during the winter months. If any of the solution should get into the eye, flush out with water.

Mr. M. G. Magel
The Brown-Bridge Mills Inc.
Troy, Ohio

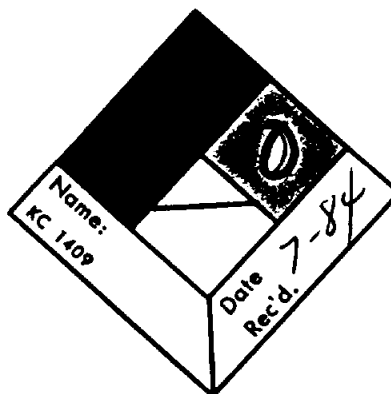
~~DELTA~~
EXP. PRODUCT 501687

This product is a modified corn starch and is supplied as a dry material. The main precaution in using and handling is to avoid excessive dusting.

Corn starch is not toxic by oral ingestion or skin contact. With respect to eye contact or inhalation, the main concern would be the discomfort caused by getting any non-corrosive powder in the eye or inhaling excessive amounts of dust. If the starch gets into the eye, flush out with water.

This product should be handled in a manner to minimize dust and the possible explosion hazard. Although individual values have not been obtained for this product they all should be in the same general range as corn starch. The values for corn starch at 5% moisture as obtained by the U.S. Bureau of Mines are:

Minimum ignition temperature of dust cloud	app. 390°C
Minimum explosive concentration	app. 62 mg/liter
Minimum energy to ignite dust cloud by electrical spark	app. 0.045 joules



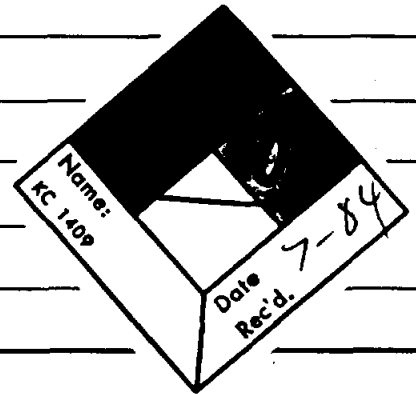
MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Olympic Adhesives, Inc.		REGULAR TELEPHONE NO. 617-762-7550
ADDRESS 670 Canton St., Norwood, MA 02062		
CHEMICAL NAME AND SYNONYMS ANIMAL GLUE		CAS NO. UN NO.
TRADE NAME AND SYNONYMS Olympic 1240 Animal Glue		
CHEMICAL FAMILY Protein	FORMULA Natural Polymer - Collagen	
SHIPPING NAME: DOT:		IATA:

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	CAS NO. UN NO.	%	HAZARD DATA
ANIMAL GLUE IS CONSIDERED TO BE		NON	HAZARDOUS



III PHYSICAL DATA

BOILING POINT, 760 mm Hg	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O = 1)	1.2	VAPOR PRESSURE (mm Hg at °C)	N/A
VAPOR DENSITY (AIR = 1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	100%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (N/A - 1)	
APPEARANCE AND ODOR	Brown Granular Substance	pH (AS IS)	N/A
		pH AT 7-1 DILUTION	5.0 - 7.5

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	N/A	AUTO IGNITION TEMPERATURE	FLAMMABLE LIMITS N/A	LOWER:
			IN AIR, % BY VOL.:	UPPER:
EXTINGUISHING MEDIA	N/A			
SPECIAL FIRE FIGHTING PROCEDURES	N/A			
UNUSUAL FIRE AND EXPLOSION HAZARD	N/A			

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	HAZARD CLASSIFICATION	BASIS FOR CLASSIFICATION	SOURCE
ROUTES OF EXPOSURE INHALATION SKIN CONTACT SKIN ABSORPTION EYE CONTACT INGESTION	ANIMAL GLUE IS NON HAZARDOUS		
EFFECTS OF OVEREXPOSURE ACUTE OVEREXPOSURE CHRONIC OVEREXPOSURE			
EMERGENCY AND FIRST AID PROCEDURES EYES SKIN INHALATION INGESTION			
NOTES TO PHYSICIAN			

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

ANIMAL GLUE IS STABLE

INCOMPATIBILITY (MATERIALS TO AVOID)

DO NOT MIX WITH FORMALDEHYDE, ALC_HOL, OR SOLVENTS

HAZARDOUS DECOMPOSITION PRODUCTS

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

CLEAN UP WITH HOT WATER

NEUTRALIZING CHEMICALS

WASTE DISPOSAL METHOD OF SPILL OR LEAK

SEND TO DUMP

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

NOT REQUIRED

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

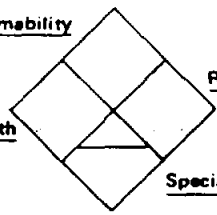
RESPIRATORY (SPECIFY IN DETAIL)

EYE

GLOVES

OTHER CLOTHING AND EQUIPMENT

IX SPECIAL PRECAUTIONS

LABELING INFORMATION AND WARNINGS <p style="text-align: center; font-weight: bold;">STORE IN A COOL, DRY AREA</p>	DATA FOR HAZARDS INFORMATION LABEL <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant </div> <div style="flex: 1; text-align: center;">  </div> </div>
OTHER HANDLING AND STORAGE REQUIREMENTS <p style="text-align: center;">NONE</p>	

X DISPOSAL

WASTE DISPOSAL METHOD
AQUATIC TOXICITY (eg. 96 hr TLM):

XI GOVERNMENT REGULATIONS

REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS <div style="margin-top: 20px;">FEDERAL</div> <div style="margin-top: 100px;">STATE</div> <div style="margin-top: 100px;">OTHER</div>	REGULATION HIGHLIGHTS
---	------------------------------

PREPARED BY: Paul C. Ryan **COMPANY:** Olympic Adhesives, Inc.
ADDRESS: 670 Canton St., Norwood, MA 02062 **TEL. NO.:** (617) 762-7550
DATE PREPARED: 3/31/82 **LATEST REVISION DATE:** 3/82



MATERIAL SAFETY DATA SHEET

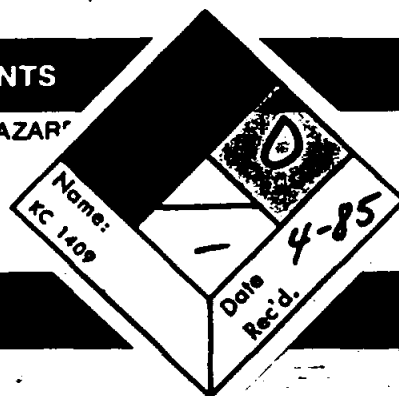
J. T. Baker Chemical Co., 222 Red School Lane, Phillipsburg, N.J. 08865

SECTION I . IDENTIFICATION OF PRODUCT

CHEMICAL NAME [REDACTED]	FORMULA CH ₃ OH
SYNONYM OR CROSS REFERENCE [REDACTED]	CAS NO: 6-7561

SECTION II . HAZARDOUS INGREDIENTS

MATERIAL	NATURE OF HAZARD
----------	------------------



SECTION III . PHYSICAL DATA

BOILING POINT 64.5°C.	MELTING POINT -97.8°C.
VAPOR PRESSURE	SPECIFIC GRAVITY 0.792
VAPOR DENSITY (AIR=1) 1.11	PERCENT VOLATILE BY VOLUME (%)
WATER SOLUBILITY Complete	EVAPORATION RATE (_____ = 1)

APPEARANCE

Clear, colorless flammable, poisonous mobile liquid.

SECTION IV . FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (method used) 15.5°C. (open cup)	FLAMMABLE LIMITS	Lower 6%	Upper 36.5%
---	------------------	-------------	----------------

FIRE EXTINGUISHING

MEDIA - Dry chemical, carbon dioxide, alcohol foam.

SPECIAL FIRE-FIGHTING PROCEDURES Water spray may be ineffective as an extinguishing agent but water should be used to keep fire-exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARD

SECTION V . HEALTH HAZARD

THRESHOLD LIMIT VALUE
200 PPM; 260 mg/m³ scu-mus LD₅₀: 9800 mg/kg

HEALTH HAZARDS

POISON: Cannot be made nonpoisonous. Harmful if inhaled.

FIRST AID PROCEDURES If swallowed, if conscious, induce vomiting until vomit fluid is clear. Call a physician. If inhaled, remove to fresh air. If necessary, give oxygen or apply artificial respiration. Call a physician.

CHEMICAL NAME

SECTION VI . REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID Keep away from heat, sparks, flame.
	STABLE	X	

INCOMPATIBILITY (materials to avoid) Chromic Anhydride; Iodine, Ethyl Alcohol & Mercuric Oxide Mixtures; Lead Perchlorate; Potassium Hydroxide & Chloroform Mixtures; Sodium Hydroxide & Chloroform Mixtures

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII . SPILL AND DISPOSAL PROCEDURES

SPILLS

Eliminate all sources of ignition. Absorb on sand, earth, or vermiculite. Carefully sweep up and remove. Alternatively use J.T.Baker's Flammable Solvents Spill Clean-Up Kit (Product No. 4437).

DISPOSAL

Atomize into a furnace if local environmental regulations permit.

SECTION VIII . PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)

Have all-purpose canister mask available.

VENTILATION	LOCAL X	SPECIAL
	MECHANICAL (general) X	OTHER
PROTECTIVE GLOVES Rubber gloves	EYE PROTECTION Face Shield	

OTHER PROTECTIVE EQUIPMENT
Approved working clothes.

SECTION IX . HANDLING AND STORAGE PRECAUTIONS

STORAGE & HANDLING

Keep away from heat, sparks, flame. Keep in tightly closed container. Avoid breathing vapor. Wash thoroughly after handling.

SECTION X . MISCELLANEOUS INFORMATION

Date issued: 10/28/82

Approved by R. M. Mitchell
Manager, Quality Assurance

Revision No. & Date issued: _____

The information provided in this Material Safety Data Sheet has been compiled from our experience and data presented in various technical publications. It is the users responsibility to determine the suitability of this information for the adoption of safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the company to make sure that the sheet is the latest one issued.

ROHM AND HAAS COMPANY

CORPORATE HEALTH AND SAFETY
INDEPENDENCE MALL WEST
PHILADELPHIA, PA 19105

EMERGENCY TELEPHONE
215-592-3000 (ROHM AND HAAS)
800-424-9300 (CHEMTREC)



HAZARD RATING
4 - EXTREME
3 - HIGH
2 - MODERATE
1 - SLIGHT
0 - INSIGNIFICANT
• CHRONIC HEALTH HAZARD - SEE SECTION IV

Fire
Reactivity
Toxicity
Special

MATERIAL SAFETY DATA SHEET

LIST 8

MATERIAL PHOPLEX® B-10 Emulsion	CODE 65263	KEY 905316-9	FREIGHT CLASSIFICATION
FORMULA	CHEMICAL NAME OR SYNONYMS Aqueous acrylic emulsion		
DATE ISSUED 12/09/82			

(I - INGREDIENTS)

	WEIGHT %	TWA/TLV
Acrylic polymer	46.0	Not established
Residual monomers (See Section X)	0.1 max.	
Formaldehyde (See Section IX)	0.02	1 ppm C ACGIH
Water	54.0	

(II - PHYSICAL DATA)

APPEARANCE · ODOR · pH Milky-white liquid; mild acrylic odor; pH 5.5-6.5	VISCOSITY 120 cps max. Brookfield
MELTING OR FREEZING POINT 0C/32F water	BOILING POINT 100C/212F water
SOLUBILITY IN WATER Dilutable	PERCENT VOLATILE (BY WEIGHT) 60.0 water
	VAPOR PRESSURE (mm Hg) 17 @20C/68F
	SPECIFIC GRAVITY (WATER = 1) 1-1.2
	VAPOR DENSITY (AIR = 1) >1 Heavier
	EVAPORATION RATE (BUTYL ACETATE = 1) <1 Slower

(III - FIRE AND EXPLOSION HAZARD DATA)

FLASH POINT Non-combustible	AUTO IGNITION TEMPERATURE NA	LOWER EXPLOSION LIMIT (%) NA	UPPER EXPLOSION LIMIT (%) NA
EXTINGUISHING MEDIA <input type="checkbox"/> FOAM <input type="checkbox"/> "ALCOHOL" FOAM <input type="checkbox"/> CO ₂ <input type="checkbox"/> DRY CHEMICAL <input type="checkbox"/> WATER FOG <input type="checkbox"/> OTHER			
SPECIAL FIRE FIGHTING PROCEDURES NA			

UNUSUAL FIRE AND EXPLOSION HAZARDS

Product will not burn but may spatter if temperature exceeds boiling point. Polymer films are capable of burning giving off oxides of carbon.

(IV - HEALTH HAZARD DATA)

RECOMMENDED ROHM AND HAAS HEALTH GUIDE TWA (MAXIMUM TIME-WEIGHTED-AVERAGE CONCENTRATION FOR AN 8-HOUR WORK PERIOD)
Formaldehyde - 0.5 ppm, 1 ppm STEL

EFFECTS OF OVEREXPOSURE

Inhalation: Vapors or spray mists in poorly ventilated areas can cause headache, nausea, and irritation of the nose, throat and lungs.

Skin Contact: Prolonged or repeated contact with product can cause skin irritation.

Eye Contact: Direct contact with product can result in eye irritation.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Remove subject to fresh air.

Eye and Skin Contact: Promptly and thoroughly wash eyes with water for at least 15 minutes and see a physician if irritation occurs; wash skin thoroughly with soap and water; if drenched, remove and wash contaminated clothing before reuse.

Ingestion: If victim is conscious, give two glasses of water to drink. Call a physician. Do not give anything by mouth to an unconscious person.

(V - REACTIVITY DATA)

STABILITY		CONDITIONS TO AVOID	
<input checked="" type="checkbox"/> STABLE	<input type="checkbox"/> UNSTABLE	NA	
HAZARDOUS DECOMPOSITION PRODUCTS			
N/		CONDITIONS TO AVOID	
<input type="checkbox"/> MAY OCCUR	<input checked="" type="checkbox"/> WILL NOT OCCUR	NA	
INCOMPATIBILITY (MATERIALS TO AVOID)			
<input type="checkbox"/> WATER	<input type="checkbox"/> OTHER	NA	

(VI - SPILL OR LEAK PROCEDURE)**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Keep unnecessary people away. Dike and contain spill with inert material (sand, earth, etc.) and transfer the liquid and solid diking material separately to containers for recovery or disposal. Keep spill out of sewers and open bodies of water. Floors may be slippery, care should be exercised to avoid falls.

WASTE DISPOSAL METHODS Coagulate the emulsion with ferric chloride or sulfate and then lime to a clear end-point. Decant the clear liquid to sewer and landfill the coagulum and diking material. Incineration of the entire emulsion is possible but impractical because of the high water content. Coagulum may be incinerated.

(VII - SPECIAL PROTECTION INFORMATION)**VENTILATION TYPE**

Mechanical local exhaust at point of dust release.

RESPIRATORY PROTECTION

None required if good ventilation is maintained. Otherwise wear MSHA/NIOSH approved type suitable for vapor or mist concentrations encountered.

PROTECTIVE GLOVES**EYE PROTECTION**

Impervious

Safety glasses

OTHER PROTECTIVE EQUIPMENT**(VIII - STORAGE AND LABELING)****STORAGE TEMPERATURE**

MAX. 60C/140F MIN. 1C/34F

INDOOR

YES

HEATED

NO

REFRIGERATED

NO

OUTDOOR

YES

PRECAUTIONARY LABELING: KEEP FROM FREEZING -- PRODUCT STABILITY MAY BE AFFECTED.

(IX - TOXICITY INFORMATION)

Formaldehyde is an animal carcinogen, however, objective data indicates that under typical conditions of use for this product, the Rohm and Haas TWA of 0.5 ppm will not be exceeded.

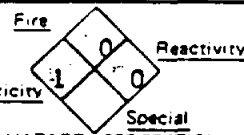
(X - MISCELLANEOUS INFORMATION)

NOTE: Residual monomer content under conditions of normal handling and use does not present a hazard. However, monomer vapors may be released into workroom atmosphere when emulsions are heat cured or dried (rollers, ovens, infrared lamp, or comparable equipment) if good ventilation is not used.

NOTE: Spray from product must not be inhaled. Respirators should be provided if engineering controls are not adequate. Inhalation exposures to mists of product should be maintained below 10 mg/m³.

ROHMPLEX® IS A TRADEMARK OF ROHM AND HAAS COMPANY OR ONE OF ITS SUBSIDIARIES OR AFFILIATES.

NA - NOT APPLICABLE C - CEILING VALUE	KEY 905316-9	DATE OF ISSUE 12/09/82	SUPERSEDES 05/12/82
THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.		PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHERMORE, VENDEE ASSUMES THE RISK IN HIS USE OF THE MATERIAL.	

ROHM AND HAAS COMPANYCORPORATE HEALTH AND SAFETY
INDEPENDENCE MALL WEST
PHILADELPHIA, PA 19105EMERGENCY TELEPHONE
215-592-3000 (ROHM AND HAAS)
800-424-9300 (CHEMTREC)**HAZARD RATING**4 - EXTREME
3 - HIGH
2 - MODERATE
1 - SLIGHT
0 - INSIGNIFICANT
• CHRONIC HEALTH HAZARD - SEE SECTION IV**MATERIAL SAFETY DATA SHEET**

LIST 8

MATERIAL PROPLEX® B-15 Emulsion	CODE 65183	KEY 905288-3	FREIGHT CLASSIFICATION PLASTIC LIQUID, NOI
	DATE ISSUED 03/12/82		
FORMULA	CHEMICAL NAME OR SYNONYMS Aqueous acrylic emulsion		

(I - INGREDIENTS)

	WEIGHT %	TWA/TLV
Acrylic polymer	45.0	Not established
Residual monomers (See Section X)	0.1 max.	
Formaldehyde	0.03	
Water	55.0	

(II - PHYSICAL DATA)

APPEARANCE - ODOR - pH Milky-white liquid; mild acrylic odor; pH 6.1-6.7			VISCOSITY 90 cps max. Brookfield
MELTING OR FREEZING POINT 0C /32F water	BOILING POINT 100C /212F water	VAPOR PRESSURE (mm Hg) 17 mm Hg @ 20C/68F	VAPOR DENSITY (AIR = 1) >1 (Heavier)
SOLUBILITY IN WATER Dilutable	PERCENT VOLATILE (BY WEIGHT) 55 (water)	SPECIFIC GRAVITY (WATER = 1) 1-1.2	EVAPORATION RATE (BUTYL ACETATE = 1) <1 (Slower)

(III - FIRE AND EXPLOSION HAZARD DATA)

FLASH POINT Non-combustible	AUTO IGNITION TEMPERATURE NA	LOWER EXPLOSION LIMIT (%) NA	UPPER EXPLOSION LIMIT (%) NA
EXTINGUISHING MEDIA <input type="checkbox"/> FOAM <input type="checkbox"/> "ALCOHOL" FOAM <input type="checkbox"/> CO ₂ <input type="checkbox"/> DRY CHEMICAL <input type="checkbox"/> WATER FOG <input type="checkbox"/> OTHER			

SPECIAL FIRE FIGHTING PROCEDURES
NA**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Product will not burn but may spatter if temperature exceeds boiling point. Polymer films are capable of burning giving off oxides of carbon.

(IV - HEALTH HAZARD DATA)RECOMMENDED ROHM AND HAAS HEALTH GUIDE TWA (MAXIMUM TIME-WEIGHTED-AVERAGE CONCENTRATION FOR AN 8-HOUR WORK PERIOD)
Formaldehyde - 0.5 ppm, 1 ppm STEL**EFFECTS OF OVEREXPOSURE****Inhalation:** Adverse health effects from vapors or spray mists in poorly ventilated areas may include irritation of the mucous membranes of the nose, throat, respiratory tract and symptoms of headache and nausea.**Skin Contact:** Prolonged or repeated contact with product may cause some skin irritation.**Eye Contact:** Direct contact with product may result in eye irritation.**EMERGENCY AND FIRST AID PROCEDURES****Inhalation:** Remove subject to fresh air.**Eye and Skin Contact:** Promptly and thoroughly wash eyes with water for at least 15 minutes and consult physician if irritation persists; wash skin thoroughly with soap and water; if drenched, remove and wash clothing before reuse.**Ingestion:** If victim is conscious, give two glasses of water to drink. Call a physician. Do not give anything by mouth to an unconscious person.

V - REACTIVITY DATA

STABILITY CONDITIONS TO AVOID

☒ STABLE ☐ UNSTABLE NA

HAZARDOUS DECOMPOSITION PRODUCTS

NA

HAZARDOUS POLYMERIZATION CONDITIONS TO AVOID

☐ MAY OCCUR ☒ WILL NOT OCCUR NA

INCOMPATIBILITY (MATERIALS TO AVOID)

☐ WATER ☐ OTHER NA

VI - SPILL OR LEAK PROCEDURE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Keep unnecessary people away. Dike and contain spill with inert material (sand, earth, etc.) and transfer the liquid to containers for recovery or disposal. Keep spill out of sewers and open bodies of water. Floors may be slippery, care should be exercised to avoid falls.

WASTE DISPOSAL METHODS Coagulate the emulsion with ferric chloride or sulfate and then lime to a clear end-point. Decant the clear liquid to sewer and landfill the coagulum. Incineration of the entire emulsion is possible but impractical because of the high water content. Coagulum may be incinerated.

VII - SPECIAL PROTECTION INFORMATION

VENTILATION TYPE

Mechanical local exhaust at point of contaminant (vapor or mist) release.

RESPIRATORY PROTECTION

None required if good ventilation is maintained. Otherwise wear MSHA/NIOSH approved respirator suitable for vapor or mist concentrations encountered.

PROTECTIVE GLOVES

EYE PROTECTION

Impervious

Safety glasses

OTHER PROTECTIVE EQUIPMENT

VIII - STORAGE AND LABELING

STORAGE TEMPERATURE

INDOOR

HEATED

REFRIGERATED

OUTDOOR

MAX. 60C/140F MIN. 1.1C/34F

YES

NO

NO

YES

PRECAUTIONARY LABELING: KEEP FROM FREEZING — PRODUCT STABILITY MAY BE AFFECTED.

IX - TOXICITY INFORMATION

X - MISCELLANEOUS INFORMATION

NOTE: Residual monomer content under conditions of normal handling and use does not present a hazard. However, monomer vapors may be released into workroom atmosphere when emulsions are heat cured or dried (rollers, ovens, infrared lamp, or comparable equipment) if good ventilation is not used.

NOTE: Spray from product must not be inhaled. Respirators should be provided if engineering controls are not adequate. Inhalation exposures to mists of product should be maintained below 10 mg/m3.

RHO X® IS A TRADEMARK OF ROHM AND HAAS COMPANY OR ONE OF ITS SUBSIDIARIES OR AFFILIATES.

NA - NOT APPLICABLE
C - CEILING VALUE

KEY 905288-3

DATE OF ISSUE 03/12/82

SUPERSEDES 08/27/81

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSON PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY

PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHERMORE, VENDEE ASSUMES THE RISK IN HIS USE OF THE MATERIAL.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

400 ppm* or approximately 980 mg per cubic meter of air.

EFFECTS OF OVEREXPOSURE

Inhalation: flushing, headache, dizziness, nausea, vomiting.

Eye: Irritant. Skin: absorbed through skin adding to effect of inhalation

Inhalation: remove to fresh air. Keep warm and comfortable. (Call a physician for coma). If breathing is labored, give artificial respiration. If conscious,

give black coffee. Eyes: wash with water. Skin: remove soaked clothing.

SECTION VI - REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Reagents to avoid)

Hydrogen-palladium combination; nitroform; for alcohols in general, see page 3

HAZARDOUS DECOMPOSITION PRODUCTS

We have no studies on this product. CO and CO₂ and possibly aldehydes would be expected.

HAZARDOUS POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Use personal protection equipment. See also page 1

WASTE DISPOSAL METHOD

(1) Evaporate with authority approval.

(2) Sewer with authority approval.

(3) Reclaim internally or by outside chemical disposal contractor licensed for this operation.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

For leaks and spills, types: see Ref. (a)

VENTILATION

LOCAL EXHAUST

generally required;

MECHANICAL (General)

SPECIAL

OTHER

PROTECTIVE GLOVES

Not generally required.

EYE PROTECTION

Safety glasses.

OTHER PROTECTIVE EQUIPMENT

Not generally required.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

See Reference (a). Corrodes rubber - use neoprene. Avoid ignition sources and

hot spots. Use Underwriter-approved explosion proof electrical systems, formal

OTHER PRECAUTIONS

See Reference (a), including personnel training

tank entry procedure.

*This is designated a "skin" value by ACGIH

Form OSHA-20

Rev. Nov., 1977

F.C.H.

MATERIAL SAFETY DATA SHEET

EG-Solvents

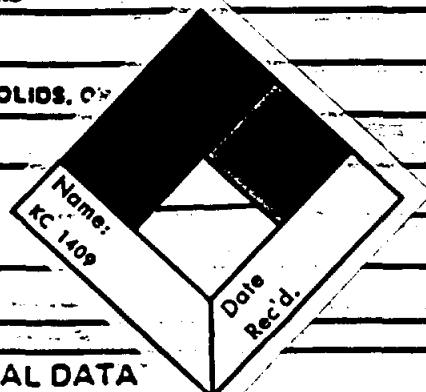
Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

Allied Chemical Corporation Specialty Chemicals Division		EMERGENCY TELEPHONE NO. (201) 455-2000
ADDRESS P. O. Box 1087R, Morristown, NJ 07960		
CHEMICAL NAME AND SYNONYMS Isopropyl Alcohol; Isopropanol		TRADE NAME AND SYNONYMS Isopropyl Alcohol
CHEMICAL FAMILY Aliphatic Alcohols	FORMULA (CH ₃) ₂ CHOH	

SECTION II - HAZARDOUS INGREDIENTS N.A.

PAINTS, PRESERVATIVES, & SOLVENTS	Z	TLV (Units)	ALLOYS AND METALLIC COATINGS	Z	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL / PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR				Z	TLV (Units)



SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	180°F	(82.5°C)	SPECIFIC GRAVITY (H ₂ O=1) (Liquid)	0.785
VAPOR PRESSURE (mm Hg.) At 20°C (68°F)	33		PERCENT VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	2.1		EVAPORATION RATE (n But. Ac = 1) (Time to evaporate)	<1
SOLUBILITY IN WATER	complete			
APPEARANCE AND ODOR Colorless liquid; slight odor, resembling a mixture of acetone and ethanol				

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Mettler) (Closed cup)	53°F (11.7°C)	FLAMMABLE LIMITS by volume	3.0	12
EXTINGUISHING MEDIA Alcohol foam, or CO ₂ . Water may be ineffective.				
SPECIAL FIRE FIGHTING PROCEDURES Wear self-contained breathing apparatus approved by NIOSH. Use water to cool neighboring containers.				
UNUSUAL FIRE AND EXPLOSION HAZARDS We know of none.				

SECTION VI. Incompatability (cont'd.)

Acetaldehyde
Chlorine
Diethyl aluminum bromide
Ethylene oxide
Hexamethylene diisocyanate
Hydrogen peroxide-sulfuric acid combination
Hypochlorous acid
Isocyanates
Perchloric acid
Permonosulfuric acid
Tri-iso-butyl aluminum

SECTION VI. SPILL OR LEAK PROCEDURES (cont'd.)

Small Spills: mop up, wipe up, or soak up immediately, remove to out-of-doors. Place soaked wiping material in a metal container and seal.

Large Spills: use water spray to disperse the vapors and to protect any men attempting to stop a leak; also to flush spills away from fire hazard exposures. If possible, dike up. Use water to dilute spills to non-flammable mixtures.

Reference (a)

NAMCC Technical Guide No. 6, "Handbook of Organic Industrial Solvents", 2nd ed., 1961, National Assn. of Mutual Casualty Companies, 20 N. Wacker Drive, Chicago, IL., particular section "Control of Solvent Exposures".

Nov., 1977
F.C.H.

543 JUL 21 '75

Form Approved
Budget Bureau No. 44-R1387
Approval Expires April 30, 1971

U.S. DEPARTMENT OF LABOR

Form No. 100-108-4
XII-8D-1341(BA)

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME Pfizer Chemicals Division		EMERGENCY TELEPHONE NO. 212-573-1200
ADDRESS (Number, Street, City, State, and ZIP Code) 235 E. 42nd St., New York, N.Y. 10017		
CHEMICAL NAME AND SYNONYMS Anhydrous Citric Acid, U.S.P., F.C.C.; 3-Hydroxy-tricarboxylic acid, 2-Hydroxy-		TRADE NAME AND SYNONYMS
CHEMICAL FAMILY Aliphatic Acid	FORMULA HOC(CH₂CO₂H)₂CO₂H	

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS			OTHERS		
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES					
Not Applicable					

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	N.A.	SPECIFIC GRAVITY (H ₂ O=1)	1.542
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT VOLATILE BY VOLUME (%)	N.A.
VAPOR DENSITY (AIR=1)	N.A.	EVAPORATION RATE (H ₂ O=1)	N.A.
SOLUBILITY IN WATER at 20° C.	59.2g./100ml.	Melting Point	153° C.
APPEARANCE AND ODOR	White odorless granular, fine granular or powder		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Ignition Temp. (Powder)	1000°--1020° C.	FLAMMABLE LIMITS g./ft.	Min. 8	Opt. 55
EXTINGUISHING MEDIA	Water			
SPECIAL FIRE FIGHTING PROCEDURES	None			
UNUSUAL FIRE AND EXPLOSION HAZARDS	Weak (Bur. of Mines Relative Explosion Hazard Rating.)			

Pkg:

Pkg. Dim. (CD):

Gross Wgt.:

McKesson
CHEMICAL

2228 W. Dorothy Lane
Dayton, Ohio 45439

1,7,7-propane-tricarboxylic acid

SECTION V HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	Not established
EFFECTS OF OVEREXPOSURE	As other mild organic acids, may cause symptoms of respiratory irritation.
EMERGENCY AND FIRST AID PROCEDURES	Flush skin contact with water and flush eye contact immediately with physiological saline or water. Get medical care for eyes.

SECTION VI REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	N.A.
INCOMPATIBILITY (Materials to avoid)		Usual incompatibilities of organic acids	
HAZARDOUS DECOMPOSITION PRODUCTS		Not established	
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	N.A.

SECTION VII SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Flush with water or sweep and shovel.	
WASTE DISPOSAL METHOD	
Can be flushed away with water or disposed in normal solids disposal systems.	

SECTION VIII SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type)			
Approved nuisance mask			
VENTILATION	LOCAL EXHAUST	Satisfactory	SPECIAL
	MECHANICAL (General)		OTHER
PROTECTIVE GLOVES		EYE PROTECTION	
None normally required		Safety spectacles	
OTHER PROTECTIVE EQUIPMENT			
None			

SECTION IX SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	
N.A.	
OTHER PRECAUTIONS	
None	



The following statement on the safety of citric acid provides additional information not covered by the Material Safety Data Sheet:

Citric acid, a naturally occurring compound, is widely distributed in plants and in animal tissues and its metabolic pathways have been well established. In man citric acid is an important intermediate in the "Krebs Citric Acid Cycle" which represents the pathway of aerobic oxidation of pyruvic acid in the body. Citric acid has a long history of safe use and is classified by the U.S. FDA as "Generally Recognized As Safe" for use in foods. In addition to the published evidence of safety, Pfizer Inc.'s 50 years of experience in manufacturing citric acid has shown that under normal use and handling conditions it is not an occupational health hazard.



CHEMCENTRAL/ Detroit 13395 Huron River Drive Romulus, Michigan 48174 (313) 941-4800

July 14, 1982

Safety Director
Brown-Bridge Mills Inc.
Div of Kimberly Clark Corp.
P.O. Box 370
Troy, Ohio 45373
Dear Sir:

Enclosed are Material Safety Data Sheets for materials you have purchased from us during 1981. A copy of the list is attached hereto and made a part hereof.

You may be required by state or local laws, regulations or ordinances to transmit or make available material in the enclosed Material Safety Data Sheets to your employees. It is certainly recommended that you contact counsel concerning this requirement in regard to the enclosed Material Safety Data Sheets.

In the event that Material Safety Data Sheets for products you have purchased have not been enclosed, or if you need additional copies of these sheets, please contact your CHEMCENTRAL/Detroit representative.

Very truly yours,

CHEMCENTRAL/Detroit

A handwritten signature in cursive script that reads "William H. Shook".

William H. Shook
Vice President & General Manager

ces

Enclosures

PRODUCTS PURCHASED IN 1981 BY:

15144 -BROWN BRIDGE MILLS - 90

71360

FD&C BLUE #1 CRYSTALS

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Warner-Jenkinson Company	REGULAR TELEPHONE NO. (314) 658-7440. EMERGENCY TELEPHONE NO.
ADDRESS 2526 Baldwin Street St. Louis, Missouri 63106	
TRADE NAME (#5601) FD&C Blue #1	
SYNONYMS Brilliant Blue FCF	
SHIPPING NAME ¹ DOT: n/a IATA: n/a	

II HAZARDOUS INGREDIENTS²

MATERIAL OR COMPONENT	CAS NO.	%	HAZARD DATA
n/a			
(FD&C Colors are not considered			
hazardous material - do not fall under			
the jurisdiction of D.O.T.)			

III PHYSICAL DATA

BOILING POINT, 760 MM HG	n/a	MELTING POINT	n/a
SPECIFIC GRAVITY (H ₂ O = 1)	n/a	VAPOR PRESSURE	n/a
VAPOR DENSITY (AIR = 1)	n/a	SOLUBILITY IN H ₂ O % BY WT.	Approx. 20
% VOLATILES BY VOL.	n/a	EVAPORATION RATE (BUTYL ACETATE = 1)	n/a
APPEARANCE AND ODOR	See Specification	Ph (AS IS) Ph (1% SOLN.)	n/a

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	n/a	AUTOIGNITION TEMPERATURE	n/a
FLAMMABLE LIMITS IN AIR, % BY VOL.	n/a	LOWER	n/a
		UPPER	n/a
EXTINGUISHING MEDIA	Will not burn		
SPECIAL FIRE FIGHTING PROCEDURES	n/a		
UNUSUAL FIRE AND EXPLOSION HAZARD	n/a		

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

This product is hygroscopic and if kept in open container, it would result in reduction of strength.

INCOMPATIBILITY

n/a

HAZARDOUS DECOMPOSITION PRODUCTS

n/a

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII DISPOSAL, SPILL OR LEAK PROCEDURES

AQUATIC TOXICITY (E.G. 96 HR. TLM):

n/a

WASTE DISPOSAL METHOD

Will not burn - suggest sanitary landfill in accordance with local, state, and federal regulations.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Clean up with warm water and hypochlorite bleach.

NEUTRALIZING CHEMICALS

n/a

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

This product is a very fine powder, and because of this, it tends to be dusty. Ventilation or dust collecting would be helpful, but not necessary.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

EYE

n/a

GLOVES

n/a

OTHER CLOTHING AND EQUIPMENT Color stains are aggravating but not hazardous. Any protection from color dust is generally appreciated by employee.

#5601 FD&C Blue #1

General Specifications:

Color additives that are certified must comply with general specifications listed in Title 21, Part 74 (Subpart A for foods, Subpart B for Drugs, and Subpart C for Cosmetics) or Part 82 (Subpart B - Foods, Drugs and Cosmetics):

Description:

A finely ground, metallic blue, water soluble powder with a characteristic greenish-blue hue when dissolved and viewed in a 10 ppm water solution.

Pure Dye:

Not less than 89 % pure dye. Range 89 - 92 %.

Identification:

A solution buffered with either 9g per liter ammonium acetate, or 9g/l. sodium acid tartrate compares favorably with the accepted standard diluted comparably using any spectrophotometer, colorimeter or visual method.

Packaging:

As specified by the customer.

FDA Status:

The acceptability of these as color additives in foods, drugs and cosmetics is covered by Color Additives Amendment-Transition Regulations, Part 74- Sections 74.101, 74.1101 -Part 82- Sections 82.101 as published in the Federal Register, Volume 42, No. 55 on Tuesday, March 22, 1977.

WARNER  JENKINSON

THE FLAVOR & COLOR CREATORS

Warner-Jenkinson Company
2526 Baldwin Street
St. Louis, Missouri 63106
(314) 658-7441

Warner-Jenkinson East, Inc.
40 Broad St.
Carlstadt, New Jersey, 07072

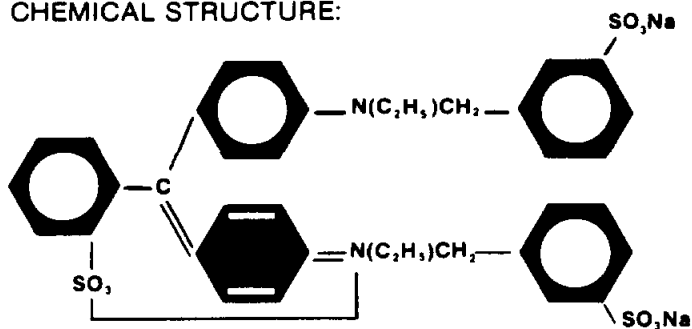
Warner-Jenkinson Co. of California
17500 Gillette Avenue

FD&C BLUE NO. 1

(W. J. Code #5601)

COMMON NAME: Brilliant Blue FCF

CHEMICAL NAME: Disodium salt of ethyl [4-[p[ethyl (*m*-sulfobenzyl)amino]-*a*-(*o*-sulfophenyl)benzylidene]-2,5-cyclohexadien-1-ylidene] (*m*-sulfobenzyl) ammonium hydroxide inner salt.

COLOR INDEX (1956)**NUMBER:** 42090 Food Blue 2**FDA STATUS:** Permanently listed.**CHEMICAL STRUCTURE:****FD&C Blue No. 1 @ 5 mg Certified Color per liter**

SPECIFICATIONS (U.S. Certification): Per Federal Regulations, Title 21, Part 74, (Subparts A,B,C) Sections 74.101, 74.1101, and Part 82, (Subpart B) Section 82.101 as published in the Federal Register Volume 42, No. 55 on March 22, 1977.

Sum of chlorides and sulfates (as sodium salts) and volatile matter (at 135° C), not more than 15.0%.

Sum of *o*-, *m*-, and *p*- sulfobenzaldehydes, not more than 1.5%.

Water-insoluble matter, not more than 0.2%.

Leuco Base, not more than 5.0%.

N-ethyl, *N*-(*m*-sulfobenzyl) sulfanilic acid, not more than 0.3%.

Subsidiary colors, not more than 6.0%.

Lead (as Pb), not more than 10 p.p.m.

Chromium (as Cr), not more than 50 p.p.m.

Arsenic (as As), not more than 3 p.p.m.

Pure dye (as determined by titration with titanium trichloride) not less than 85.0%.

Warner-Jenkinson FD&C Blue No. 1

Average—89-92% pure dye

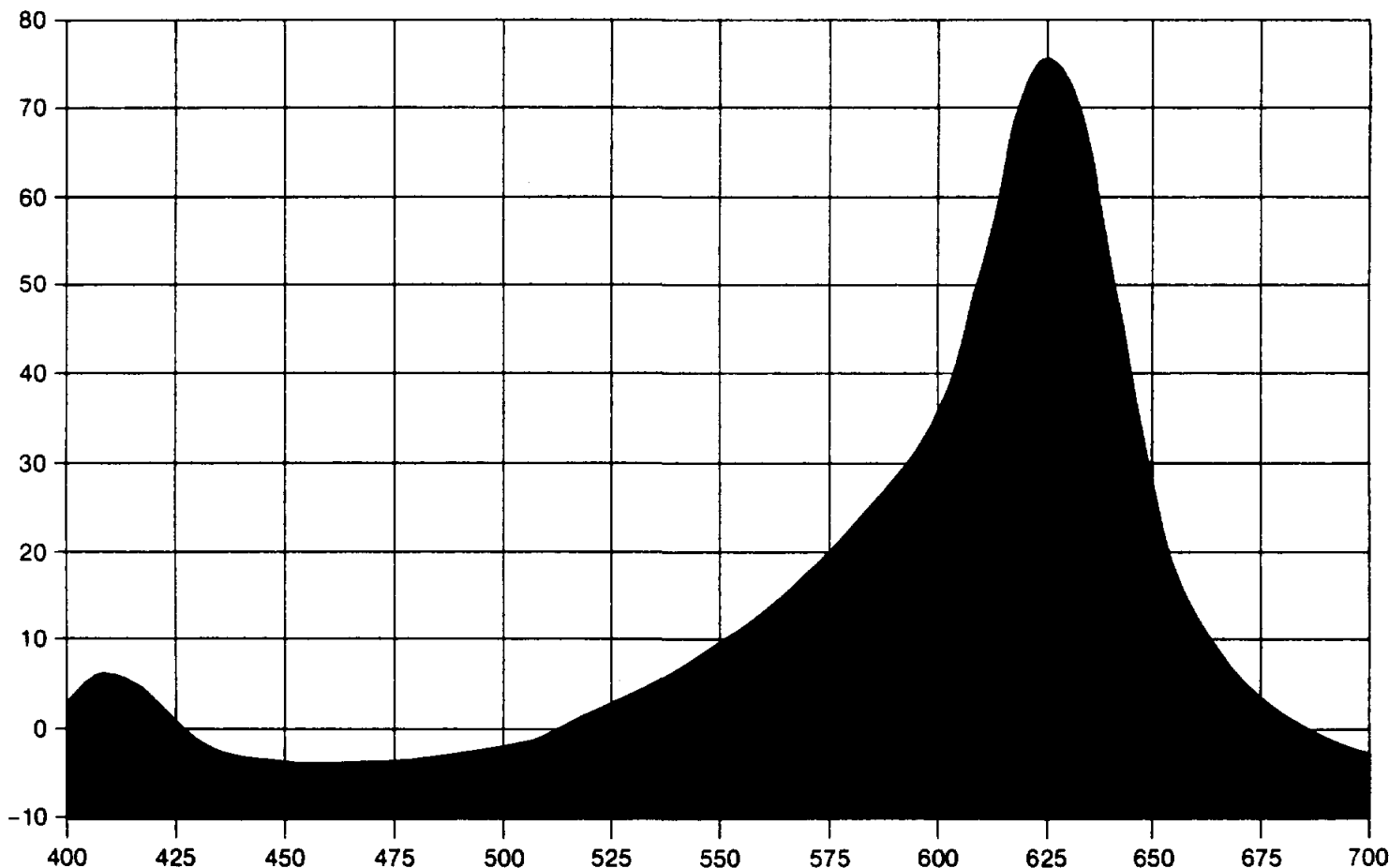


Exhibit 3B

Heat Seal Coater Waste Sludge

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Issue Date:
6/82

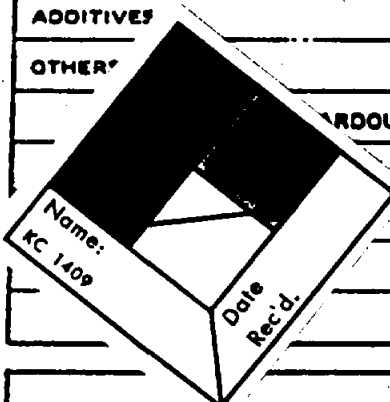
Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME Pfizer Inc., Special Chemicals Department		EMERGENCY TELEPHONE NO. (919) 292-1781
ADDRESS (Number, Street, City, State, and ZIP Code) 2110 High Point Rd., Greensboro, N.C. 27403		
TRADE NAME AND SYNONYMS XXXXXXXXXXXXXXXXXXXX		FORMULA $C_{20}H_{26}O_4$
CHEMICAL NAME Ester		

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS Not			BASE METAL Not		
CATALYST Applicable			ALLOYS Applicable		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHER					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES					% TLV (Units)
Not Applicable (not a mixture)					



SECTION III - PHYSICAL DATA

BOILING POINT at 4 mm	200-235°C	SPECIFIC GRAVITY (H₂O=1) at 20°C	1.148
VAPOR PRESSURE (mm Hg) at 150°C	0.1 mm Hg	PERCENT, VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)	11.6	EVAPORATION RATE (Water = 1)	<1
SOLUBILITY IN WATER	Insoluble	Melting point	63°C
APPEARANCE AND ODOR White powder - Ester odor			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) (C.O.C.) 405°F	FLAMMABLE LIMITS Not Established	Let	Uet
EXTINGUISHING MEDIA Water, CO ₂ , Foam			
SPECIAL FIRE FIGHTING PROCEDURES None normally required			
UNUSUAL FIRE AND EXPLOSION HAZARDS			
Fire Hazard: Slight, when exposed to heat or flame. Can react with oxidizing materials.			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

Not Established (approved indirect food additive)

EFFECTS OF OVEREXPOSURE

Excessive contact may result in eye or skin irritation. Low vapor pressure at room temperature minimizes inhalation exposure. Avoid contact with mist or spray.

EMERGENCY AND FIRST AID PROCEDURES

Flush skin and eyes with plenty of water and get medical attention for eyes.

SECTION VI - REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

Avoid high temperatures

INCOMPATIBILITY (Materials to avoid)

Oxidizing materials

HAZARDOUS DECOMPOSITION PRODUCTS

Not Established

HAZARDOUS POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

Not Applicable

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Sweep up spills. Flush area with water.

WASTE DISPOSAL METHOD

Any normal disposal procedure which is in conformance with pertinent federal, state or local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

Approved dust mask

VENTILATION

LOCAL EXHAUST

Satisfactory

SPECIAL

MECHANICAL (General)

OTHER

PROTECTIVE GLOVES

Rubber gloves

EYE PROTECTION

Safety glasses or goggles

OTHER PROTECTIVE EQUIPMENT

Dustcaps

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store away from oxidizing materials.

OTHER PRECAUTIONS

None normally required

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME UNITEX CHEMICAL CORP.	EMERGENCY TELEPHONE NO. 919-378-0965
ADDRESS (Number, Street, City, State, and ZIP Code) P. O. Box 16344, 520 Broome Rd., Greensboro, N. C. 27406	
CHEMICAL NAME AND SYNONYMS Dicyclohexyl Phthalate	TRADE NAME AND SYNONYMS
CHEMICAL FAMILY	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS Not applicable			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
None known					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H ₂ O=1)	1.29
VAPOR PRESSURE (mm Hg.) @150° C	>0.1	PERCENT. VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR	White solid - mild odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	405° F. C. C. C.	FLAMMABLE LIMITS	L	U
EXTINGUISHING MEDIA	CO ₂ , Dry chemical, Water spray			
SPECIAL FIRE FIGHTING PROCEDURES	None			
UNUSUAL FIRE AND EXPLOSION HAZARDS	None known			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	5 mg/m ³
EFFECTS OF OVEREXPOSURE	None expected
EMERGENCY AND FIRST AID PROCEDURES	
Eyes: Flush with water.	
Ingestion: No known antidote, treat symptomatically.	
Skin: Wash with soap and water.	

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)		Avoid strong oxidizers	
HAZARDOUS DECOMPOSITION PRODUCTS		None known	
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Contain and recover, small spill use dry absorbent.
WASTE DISPOSAL METHOD
Incineration

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)		
VENTILATION	LOCAL EXHAUST To comfort levels	SPECIAL
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES	Rubber gloves	EYE PROTECTION
		Safety glasses
OTHER PROTECTIVE EQUIPMENT		
Normal plant clothing		

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
None
OTHER PRECAUTIONS

Monsanto

RUBBER & PROCESS CHEMICALS DIVISION

MONSANTO INDUSTRIAL CHEMICALS CO.
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166
Phone: (314) 694-1000

December 24, 1974

Mr. M. G. Magel
Director of Purchasing
The Brown Bridge Mills, Inc.
P.O. Box 370
Troy, Ohio 45373

Dear Mr. Magel:

The enclosed Material Safety Data Sheet for
Diphenyl Phthalate is being sent in response
to your recent request.

Should you have any questions about this
information, I shall be happy to obtain
answers.

Very truly yours,



Oliver DeGarmo
Manager, Product Acceptability
Plasticizer Division

md
att:

Form Approved OMB
No. 44-R1387
Approval Expires:
July 30, 1972

U.S. DEPARTMENT OF LABOR

Form No. OSHA-20
May, 1971

MATERIAL SAFETY DATA SHEET

SECTION I						
MANUFACTURER'S NAME MONSANTO COMPANY			EMERGENCY TELEPHONE NO. (314) 604-1000			
ADDRESS (Number, Street, City, State, and ZIP Code) 800 North Lindbergh Boulevard, St. Louis, Missouri 63166						
CHEMICAL NAME AND SYNONYMS Diphenyl Phthalate			TRADE NAME AND SYNONYMS			
CHEMICAL FAMILY Phthalate Ester			FORMULA C ₂₀ H ₁₄ O ₄			
SECTION II HAZARDOUS INGREDIENTS						
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)	
PIGMENTS			BASE METAL			
CATALYST			ALLOYS			
VEHICLE			METALLIC COATINGS			
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX			
ADDITIVES			OTHERS			
OTHERS						
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)	
Not hazardous by definitions in 29 CFR section 1501.2 which pertains to this data sheet.						
SECTION III PHYSICAL DATA						
BOILING POINT (mm Hg)		760 mm.	405°C	SPECIFIC GRAVITY (H ₂ O = 1) 20°C		1.280
VAPOR PRESSURE (mm Hg)		150°C	0.15 mm.	PERCENT VOLATILE BY VOLUME (%)		N.A.
VAPOR DENSITY (AIR = 1)			N.A.	EVAPORATION RATE (BUNAC = 1)		< 1
SOLUBILITY IN WATER		Negligible	< 0.01%			
APPEARANCE AND ODOR		Essentially white solid				
SECTION IV FIRE AND EXPLOSION HAZARD DATA						
FLASH POINT (ASTM D93)		COC	435°F	FLASHABLE LIMITS		
				N.A.		
EXTINGUISHING MEDIA		Dry powder, CO ₂ , chemical foam, water fog				
SPECIAL FIRE FIGHTING PROCEDURES						
UNUSUAL FIRE AND EXPLOSION HAZARDS						

Diphenyl Phthalate

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	Not established.
EFFECTS OF OVEREXPOSURE	Impossible at ambient temperature. Excessive high temperature may produce irritating vapors.
EMERGENCY AND FIRST AID PROCEDURES	Unlikely to be necessary. Remove to fresh air.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)	None		
HAZARDOUS DECOMPOSITION PRODUCTS	Smoke, soot, CO, CO ₂		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Clean up like other non-hazardous liquids.
WASTE DISPOSAL METHOD
Same as motor oil.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) - Not necessary.			
VENTILATION	LOCAL EXHAUST	If excessively high temp.	SPECIAL
	MECHANICAL (General)	Not necessary.	OTHER
PROTECTIVE GLOVES	Not necessary.	EYE PROTECTION	Not necessary except as
OTHER PROTECTIVE EQUIPMENT	None		good industrial practice.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Although no special precautions appear necessary, good industrial practice as to housekeeping, personal hygiene, avoidance of prolonged and repeated skin contact and splashing in eyes is indicated.
OTHER PRECAUTIONS	

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

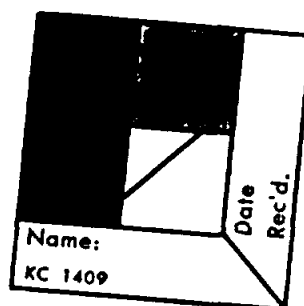
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1/17/72

M A T E R I A L S
DOW CHEMICAL U.S.A. MIDLAND MI

EFFECTIVE DATE: 15 AUG 78

PRODUCT NAME: ~~XXXXXXXXXX~~



T A S H E E T PAGE: 1
RGENCY PHONE: 517-636-4400

PRODUCT CODE: 44280

MSD: 0466

INGREDIENTS (TYPICAL VALUES-NOT SPECIFICATIONS) : X :

A POLYMER DISPERSED IN WATER. : :

SECTION 1

PHYSICAL DATA

BOILING POINT: 212F : SOL. IN WATER: EMULSION
VAP PRESS: ---- : SP. GRAVITY: 1.0076-1.0159
VAP DENSITY (AIR=1): ---- : % VOLATILE BY VOL: 51-54
APPEARANCE AND ODOR: MILKY WHITE LIQUID EMULSION - SLIGHT NH3.
THE PHYSICAL DATA LISTED ARE FOR A SERIES OF
LATEXES. FOR SPECIFIC PROPERTIES ON ANY GIVEN
LATEX SEE THE PRODUCT BULLETIN.

SECTION 2

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: NONE : FLAMMABLE LIMITS (STP IN AIR)
METHOD USED: ---- : LFL: NOT APPL. UFL: NOT APPLIC.
EXTINGUISHING MEDIA: WATER FOG - DRIED RESIN ONLY.
SPECIAL FIRE FIGHTING EQUIPMENT AND HAZARDS: BURNING DRY
RESIN EMITS DENSE, BLACK SMOKE. AS LATEX, MATERIAL IS NOT
FLAMMABLE, HOWEVER, THE DRIED RESIN IS FLAMMABLE SIMILAR TO WOOD.

SECTION 3

REACTIVITY DATA

STABILITY: NON-REACTIVE. MAY COAGULATE IF FROZEN AT 32F.
RESIN, DRIED, IS COMBUSTIBLE.
INCOMPATIBILITY: ADDITION OF CHEMICALS MAY CAUSE COAGULATION.
HAZARDOUS DECOMPOSITION PRODUCTS: PRODUCES DENSE, BLACK SMOKE IF BURNED.
HAZARDOUS POLYMERIZATION: ----

SECTION 4

SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS (USE APPROPRIATE SAFETY EQUIPMENT): EXERCISE CARE
TO AVOID UNNECESSARY EXPOSURE AND CONTACT. WILL COLOR STREAMS AND
RIVERS TO A MILKY WHITE. HAS PRACTICALLY NO BIOLOGICAL OXYGEN DEMAND
BUT WILL SETTLE OUT AND FORM SLUDGE OR FILM. MAY PLUG UP SANITARY
SEWERS.
DISPOSAL METHOD: DIVERT TO POND AND LET DRY. BURY OR BURN SOLID WASTES.
FLUSH SEWERS WITH LARGE AMOUNTS OF WATER. FLUSH AREA WITH WATER
IMMEDIATELY.

(CONTINUED ON PAGE 2)

(R) INDICATES A REGISTERED OR TRADEMARK NAME OF THE DOW CHEMICAL COMPANY

EFFECTIVE DATE: 15 AUG 78
PRODUCT (CONT'D): LATEX 234

PRODUCT CODE: 44280
MSD: 0466

SECTION 5

HEALTH HAZARD DATA

INGESTION: LOW SINGLE DOSAGE TOXICITY.
EYE CONTACT: MINOR TO SLIGHT IRRITATION TO EYES.
SKIN CONTACT: SHORT EXPOSURE: NO IRRITATION. REPEATED, PROLONGED EXPOSURE, ESPECIALLY IF CONFINED: MILD IRRITATION, POSSIBLY A MILD SUPERFICIAL BURN.
SKIN ABSORPTION: NOT ABSORBED IN TOXIC AMOUNTS.
INHALATION: NOT A PROBLEM, CONSIDERED TO BE LOW IN HAZARD FROM INHALATION.
EFFECTS OF OVEREXPOSURE: ----

SECTION 6

FIRST AID--NOTE TO PHYSICIAN

FIRST AID PROCEDURES:

EYES: IRRIGATION OF THE EYE IMMEDIATELY WITH WATER FOR 5 MINUTES IS GOOD SAFETY PRACTICE.
SKIN: CONTACT WILL PROBABLY CAUSE NO MORE THAN IRRITATION. WASH OFF IN FLOWING WATER OR SHOWER. WASH CLOTHING BEFORE REUSE.
INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT MEDICAL PERSONNEL.
INGESTION: LOW IN TOXICITY. INDUCE VOMITING IF LARGE AMOUNTS ARE INGESTED.

NOTE TO PHYSICIAN:

EYES: MAY CAUSE MILD IRRITATION. STAIN FOR EVIDENCE OF CORNEAL INJURY.
SKIN: MAY CAUSE MILD IRRITATION. TREAT AS ANY CONTACT DERMATITIS. IF BURN IS PRESENT, TREAT AS ANY THERMAL BURN.
RESPIRATORY: NO EFFECT EXPECTED.
ORAL: LOW IN TOXICITY.
GENERAL: HUMAN EFFECTS NOT ESTABLISHED. NO SPECIFIC ANTIDOTE. TREATMENT BASED ON THE SOUND JUDGMENT OF THE PHYSICIAN AND THE INDIVIDUAL REACTIONS OF THE PATIENT.

SECTION 7

SPECIAL HANDLING INFORMATION

VENTILATION: GOOD ROOM VENTILATION USUALLY ADEQUATE FOR MOST OPERATIONS.
RESPIRATORY PROTECTION: NONE NORMALLY NEEDED.
PROTECTIVE CLOTHING: CLEAN, BODY-COVERING CLOTHING.
EYE PROTECTION: SAFETY GLASSES WITHOUT SIDE SHIELDS.

SECTION 8

SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE AT TEMPERATURES BETWEEN 40F AND 90F. MATERIAL MAY DEVELOP BACTERIA ODOR ON LONG TERM STORAGE. NO SAFETY PROBLEMS KNOWN. PRACTICE REASONABLE CARE TO AVOID REPEATED, PROLONGED SKIN CONTACT.

(CONTINUED ON PAGE 3)

(R) INDICATES A REGISTERED OR TRADEMARK NAME OF THE DOW CHEMICAL COMPANY

EFFECTIVE DATE: 15 AUG 78
PRODUCT (CONT'D): LATEX 234

PRODUCT CODE: 44280
MSD: 0466

SECTION 8 SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION (CONTINUED)

ADDITIONAL INFORMATION: ----

LAST PAGE

(R) INDICATES A REGISTERED OR TRADEMARK NAME OF THE DOW CHEMICAL COMPANY

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY,
EXPRESSED OR IMPLIED, IS MADE.

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-00S-1)

EMERGENCY TELEPHONE NO. (617) 861-6600 **DAREX Latex Product Manager**

DATE SUBMITTED September 2, 1980

CHEMICAL NAME AND SYNONYMS

TRADE NAME

CHEMICAL FAMILY

Butadiene Styrene Copolymer Latex

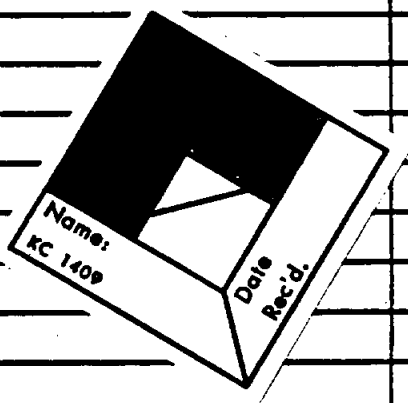
FORMULA

Proprietary

MATERIAL

2

TLV (Units)



BOILING POINT (°F.)

212

SPECIFIC GRAVITY (H₂O=1)

1

VAPOR PRESSURE (mm Hg.)

PERCENT VOLATILE HYDROCARBONS	Weight %
100.00	100.00
99.99	99.99
99.98	99.98
99.97	99.97
99.96	99.96
99.95	99.95
99.94	99.94
99.93	99.93
99.92	99.92
99.91	99.91
99.90	99.90
99.89	99.89
99.88	99.88
99.87	99.87
99.86	99.86
99.85	99.85
99.84	99.84
99.83	99.83
99.82	99.82
99.81	99.81
99.80	99.80
99.79	99.79
99.78	99.78
99.77	99.77
99.76	99.76
99.75	99.75
99.74	99.74
99.73	99.73
99.72	99.72
99.71	99.71
99.70	99.70
99.69	99.69
99.68	99.68
99.67	99.67
99.66	99.66
99.65	99.65
99.64	99.64
99.63	99.63
99.62	99.62
99.61	99.61
99.60	99.60
99.59	99.59
99.58	99.58
99.57	99.57
99.56	99.56
99.55	99.55
99.54	99.54
99.53	99.53
99.52	99.52
99.51	99.51
99.50	99.50
99.49	99.49
99.48	99.48
99.47	99.47
99.46	99.46
99.45	99.45
99.44	99.44
99.43	99.43
99.42	99.42
99.41	99.41
99.40	99.40
99.39	99.39
99.38	99.38
99.37	99.37
99.36	99.36
99.35	99.35
99.34	99.34
99.33	99.33
99.32	99.32
99.31	99.31
99.30	99.30
99.29	99.29
99.28	99.28
99.27	99.27
99.26	99.26
99.25	99.25
99.24	99.24
99.23	99.23
99.22	99.22
99.21	99.21
99.20	99.20
99.19	99.19
99.18	99.18
99.17	99.17
99.16	99.16
99.15	99.15
99.14	99.14
99.13	99.13
99.12	99.12
99.11	99.11
99.10	99.10
99.09	99.09
99.08	99.08
99.07	99.07
99.06	99.06
99.05	99.05
99.04	99.04
99.03	99.03
99.02	99.02
99.01	99.01
99.00	99.00
98.99	98.99
98.98	98.98
98.97	98.97
98.96	98.96
98.95	98.95
98.94	98.94
98.93	98.93
98.92	98.92
98.91	98.91
98.90	98.90
98.89	98.89
98.88	98.88
98.87	98.87
98.86	98.86
98.85	98.85
98.84	98.84
98.83	98.83
98.82	98.82
98.81	98.81
98.80	98.80
98.79	98.79
98.78	98.78
98.77	98.77
98.76	98.76
98.75	98.75
98.74	98.74
98.73	98.73
98.72	98.72
98.71	98.71
98.70	98.70
98.69	98.69
98.68	98.68
98.67	98.67
98.66	98.66
98.65	98.65
98.64	98.64
98.63	98.63
98.62	98.62
98.61	

44-46

VAPOR DENSITY (AIR=1)

EVAPORATION RATE $\frac{1}{1000} = 11$

Slightly less than water.

SOLUBILITY IN WATER

Dispersible

APPEARANCE AND ODOOR

Off-white emul-	
sion. Odor	
characteristic	
of styrene polymers.	

FLASH POINT (METHOD USED) Above 140°F.

FLAMMABLE LIMITS

5

Ud

EXTINGUISHING MEDIA

SPECIAL FIRE FIGHTING PROCEDURES

UNUSUAL FIRE AND EXPLOSION HAZARDS

The information contained herein is for OSHA purposes only and is based upon our knowledge current as of the date submitted. No change to the specifications pursuant to which the goods are sold is intended or should be implied and **ALL WARRANTIES**, express or implied, as to the accuracy of such information are **EXCLUDED**.

Organic Chemicals Division
W.R. Grace & Co.
Lexington, Mass. 02173
(617) 861-6600

GRACE

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

Not established, ingestion likely to be harmful.

EFFECTS OF OVEREXPOSURE

May irritate eyes and skin.

EMERGENCY AND FIRST AID PROCEDURES

Wash skin with soap and water. Flush eyes with water and get medical attention.

SECTION VI — REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Flush with water or soak up on industrial absorbent.

WASTE DISPOSAL METHOD

Consult state regulations.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify Type)

VENTILATION

LOCAL EXHAUST

X

SPECIAL

MECHANICAL (General)

OTHER

PROTECTIVE GLOVES

Rubber

EYE PROTECTION

Goggles

OTHER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Exposure to freezing temperatures may damage latex.

OTHER PRECAUTIONS

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSH-00S-4)

EMERGENCY TELEPHONE NO. (617) 861-6600	DATE SUBMITTED September 2, 1980
DAREX Latex Product Manager	
CHEMICAL NAME AND SYNONYMS	TRADE NAME [REDACTED]
CHEMICAL FAMILY Polystyrene Latex	FORMULA Proprietary

MATERIAL	%	TLV (Units)
Polymer and Stabilizers	50.5	
Water	49.5	

BOILING POINT (°F.)	212	SPECIFIC GRAVITY (M.O.=1)	1.0
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE (M.O.=1) weight %	49.5 ± 1
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (M.O.=1)	slightly less
SOLUBILITY IN WATER	Dispersible		than water
APPEARANCE AND ODOR	Off-white emulsion		
	Odor characteristic of styrene polymers		

FLASH POINT (METHOD USED)	Above 140°F	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA				
SPECIAL FIRE FIGHTING PROCEDURES				
UNUSUAL FIRE AND EXPLOSION HAZARDS				

Organic Chemicals Division
W.R. Grace & Co.
Lexington, Mass. 02173
(617) 861-6000

GRACE

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

Not established, ingestion likely to be harmful.

EFFECTS OF OVEREXPOSURE

May irritate eyes and skin.

EMERGENCY AND FIRST AID PROCEDURES

Wash skin with soap and water. Flush eyes with water and get medical attention.

SECTION VI — REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Flush with water or soak up on industrial absorbent.

WASTE DISPOSAL METHOD

Settling ponds or burial.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify Type)

VENTILATION

LOCAL EXHAUST

X

SPECIAL

MECHANICAL (General)

OTHER

PROTECTIVE GLOVES

Rubber

EYE PROTECTION

Goggles

OTHER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Exposure to freezing temperatures may damage latex.

OTHER PRECAUTIONS

GRACE

Polyfibron Division

W. R. Grace & Co.
45 North Fourth Street
P.O. Box 420
Quakertown, Pennsylvania 18951

(215) 536-4600

September 5, 1980

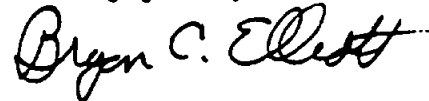
Mr. Arthur H. Dee
Manager of Purchasing
Brown-Bridge Mills, Inc.
P. O. Box 370
Troy, OH 45373

Dear Mr. Dee:

This refers to your August 14 letter regarding the safety classifications of our colored papers.

We have requested the pertinent information from our suppliers and will forward it to you as soon as we can.

Sincerely yours,



Bryan C. Elliott
Sales Department
ENDURA Products

BCE:blh

cc: H. J. Gerrior

Form Approved OMB
No. 44-R1387
Approval Expires:

MATERIAL SAFETY DATA SHEET

SECTION I

Addyston, Ohio

MANUFACTURER'S NAME

MONSANTO COMPANY

EMERGENCY TELEPHONE NO.

(513) 941-2400

ADDRESS (Number, Street, City, State, and ZIP Code)

800 North Lindbergh Boulevard, St. Louis, Missouri 63166

CHEMICAL NAME AND SYNONYMS

Aqueous Dispersion of Polystyrene

TRADE NAME AND SYNONYMS

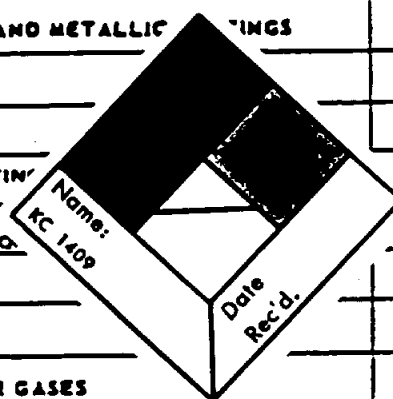
LYTRON 5100

CHEMICAL FAMILY

FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC FINISHES	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATING		
SOLVENTS			FILLER METAL PLUS COATING		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Contains 1,000 ppm or less of formaldehyde (added as a bactericide)				.1	2 ppm



SECTION III

PHYSICAL DATA

BOILING POINT (°F.)	Water	212	SPECIFIC GRAVITY (H ₂ O=1)	1.03
VAPOR PRESSURE (mm Hg.)	Water	17.5	PERCENT VOLATILE BY VOLUME (%)	54
VAPOR DENSITY (AIR=1)	Water	0.62	EVAPORATION RATE (Water=1)	1
WATER DISPERSIBILITY	Complete			
APPEARANCE AND ODOR	White liquid; slight acrid odor.			

SECTION IV

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	LC ₅₀	LD ₅₀
EXTINGUISHING MEDIA	Water fog, CO ₂ , or foam.				
SPECIAL FIRE FIGHTING PROCEDURES	None				
UNUSUAL FIRE AND EXPLOSION HAZARDS	N/A				

THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	None established
AND FIRST AID PROCEDURES	
Use normal procedures such as removal of soaked clothing or showers. Flush eyes with water to prevent local irritation.	

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	XX	
INCOMPATIBILITY (Materials to avoid)			
None			
HAZARDOUS DECOMPOSITION PRODUCTS			
Burning of resin content could yield CO and CO ₂ as well as H ₂ O.			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	XX	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Contain spill area (diking or sandbags). Use drying agent to soak up or "bail" major spills. Alternatives: (1) allow to air dry and collect polymers; (2) sprinkle "Floc" or other suitable coagulant and wash down spill with plenty of water.	
WASTE DISPOSAL METHOD	
Land fill disposal for collected spillage. Alternative: sprinkle spill with coagulant and wash to sewer system with plenty of water if local regulations permit.	

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)		
Not needed		
VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES	Rubberized gloves	EYE PROTECTION
		Goggles
OTHER PROTECTIVE EQUIPMENT		
Rubber shoes or boots		

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	
Recommend storage at 70°F. Do not freeze.	
OTHER PRECAUTIONS	
Typical container is fiberboard-vellum "liquipak". Protect from puncture. Do not stack over 3 pallets high. Export container is 20 gauge steel drum.	

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

rm 44-1060 OMB
44-R1387
proval Expires:

U.S. DEPARTMENT OF LABOR

Form No. 100-1
May, 1971

MATERIAL SAFETY DATA SHEET

SECTION I

Addyston, Ohio

MANUFACTURER'S NAME

MONSANTO COMPANY

EMERGENCY TELEPHONE NO.

(513) 941-2400

ADDRESS (Number, Street, City, State, and ZIP Code)

800 North Lindbergh Boulevard, St. Louis, Missouri 63166

CHEMICAL NAME AND SYNONYMS

Aqueous Dispersion of Polystyrene

TRADE NAME AND SYNONYMS

LYCOP 61A

CHEMICAL FAMILY

FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLV

%

TLV
(Units)

ALLOYS AND METALLIC COATINGS

%

TLV
(Units)

PIGMENTS

BASE METAL

CATALYST

ALLOYS

VEHICLE

METALLIC COATINGS

SOLVENTS

FILLER METAL
PLUS COATING OR CORE FLUX

ADDITIVES

OTHERS

WERS

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

%

TLV
(Units)

Not hazardous by definition in 29 CFR, Section 1501.2 which
pertains to this data sheet.

SECTION III PHYSICAL DATA

BOILING POINT (°F.)

Water

212°F.

SPECIFIC GRAVITY (H₂O=1)

1.03

VAPOR PRESSURE (mm Hg.)

Water

17.5

PERCENT VOLATILE
BY VOLUME (%)

53

VAPOR DENSITY (AIR=1)

Water

0.62

EVAPORATION RATE
(Water = 1)

1

SOLUBILITY IN WATER

Dispersibility

Complete

APPEARANCE AND ODOR

White liquid; slight acrid odor.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)

N/A

FLAMMABLE LIMITS

N/A

Let

Uel

EXTINGUISHING MEDIA

Water fog; CO₂ foam

SPECIAL FIRE FIGHTING PROCEDURES

None

UNUSUAL FIRE AND EXPLOSION HAZARDS

N/A

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE None established

EFFECTS OF OVEREXPOSURE None established

EMERGENCY AND FIRST AID PROCEDURES

Use normal hygienic procedures such as removal of soaked clothing, or showers. Flush eyes with water to prevent local irritation.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	XX	

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

Burning of resin content could yield CO and CO₂ as well as H₂O.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	XX	

SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Obtain spill area (diking or sandbags). Use drying agent to soak up or "bail" major spills. Alternatives: (1) allow to air dry and collect polymer; (2) sprinkle "Ferri-floc" or other suitable coagulant and wash down spill with plenty of water.

WASTE DISPOSAL METHOD Land fill disposal for collected spillage. Alternative: sprinkle spill with coagulant and wash to sewer system with plenty of water if local regulations permit.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Not needed

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	

PROTECTIVE GLOVES	Rubberized gloves	EYE PROTECTION	Goggles
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OTHER PROTECTIVE EQUIPMENT	Rubber shoes or boots
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SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE Recommend storage at 70°F. Do not freeze.

OTHER PRECAUTIONS Typical container is fiberboard-vellum "Liquipak". Protect from puncture. Do not stack over 3 pallets high. Export container is 20 gauge steel drum.

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY

Occupational Safety & Health Administration

MATERIAL SAFETY DATA SHEET

SECTION I

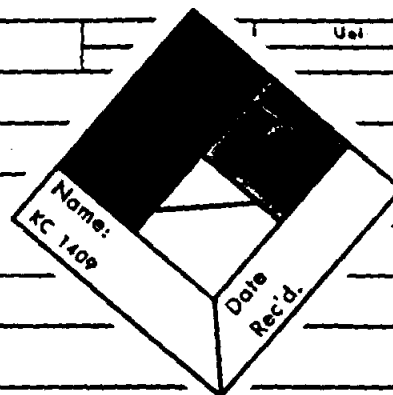
MANUFACTURER'S NAME **E. I. du Pont de Nemours & Co., Inc.** EMERGENCY TELEPHONE NO. **302-774-1000**
 Address, Street, City, State, and ZIP Code **Elastomers Dept., Wilmington, DE 19898**
 COMMON NAME AND SYNONYMS **synthetic latex** TRADE NAME AND SYNONYMS **NEOPRENE LATEX 735A**
 CHEMICAL FAMILY **anionic neoprene colloidal dispersion** FORMULA **polychloroprene latex (45% solids)**

SECTION II PHYSICAL DATA

BOILING POINT (°F)		SPECIFIC GRAVITY (H ₂ O = 1)	1.11
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	See bulletin NL-110.1
DENSITY (AIR = 1)		EVAPORATION RATE	
SOLUBILITY IN WATER		pH	11.5
APPEARANCE AND ODOR Milky white liquid. Slight odor.			

SECTION III FIRE AND EXPLOSION HAZARD DATA

TEST METHOD (Method used) **open cup** over 212°F (100°C) FLAMMABLE LIMITS **None**
 EXTINGUISHING MEDIA **Standard fire extinguishers.**
 SPECIAL FIRE FIGHTING PROCEDURES **Use regular procedures**
 SPECIAL FIRE AND EXPLOSION HAZARDS **None**



SECTION IV HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE **For chloroprene 25ppm (OSHA); 10 ppm (Du Pont)**
 EFFECTS OF OVEREXPOSURE **May cause burns. Causes irreversible damage to eyes. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor. The amount of chloroprene present is less than 0.5%. See section VII about air monitoring and ventilation.**
 EMERGENCY AND FIRST AID PROCEDURES **In case of contact, immediately flush eyes with plenty of water for at least 15 minutes; call a physician. For skin, flush thoroughly with plenty of water. If product has penetrated clothing, remove and launder. Discard shoes if contaminated inside.**

NOTICE FROM DU PONT

This Material Safety Data Sheet relates only to the specific material designated herein and does not

SECTION V REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Avoid freezing temperatures.

ADAPTABILITY (Measurements to avoid)

and other contaminants or dispersions that may coagulate latex

ADAPTATION DECOMPOSITION PRODUCTS

ADAPTATION DECOMPOSITION PRODUCTS	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VI SPILL OR LEAK PROCEDURES

TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Be familiar with bulletins mentioned below.

Use protective clothing available. Flush spill with water to a chemical
safety shower or soak up with absorbent material.

DISPOSAL METHOD

See discussion on disposal in Bulletin NL-110.1 "Toxicity

and Safe Handling of Neoprene Latexes".

SECTION VII SPECIAL PROTECTION INFORMATION

LABORATORY PROTECTION (Specify type)

Use air-supplied face mask available if TLV of chloroprene is exceeded.

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	closed systems with positive OTHER ventilation to carry all vapors out

Analytical monitoring of work room air should be carried out using

methods specific for chloroprene monomer. Read bulletins in Section VIII.

PROTECTIVE GLOVES	impervious gloves	EYE PROTECTION	safety glasses with side shields
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Eye protection recommended where splashes or spills are possible.

OTHER PROTECTIVE EQUIPMENT

Have "eye wash" equipment and/or emergency shower near

work area. Gloves and long sleeve shirts or other appropriate skin protection
should be used during handling.

SECTION VIII SPECIAL PRECAUTIONS

CAUTIONS TO BE TAKEN IN HANDLING AND STORING

Refer to bulletin "Handling of Neoprene Latex
Preparations" (A-68416). Perishable if frozen. Neoprene Latexes should be
transferred and stored under conditions to protect the colloidal
nature of the dispersion.

OTHER PRECAUTIONS

Before using read bulletins NL-110.1 and NL-110.2 on

TOXICITY AND SAFETY OF NEOPRENE LATEXES.

HYCAR[®] LATEX

SECTION I

Manufacturer's Name

B.F. Goodrich Chemical Company

Emergency Telephone

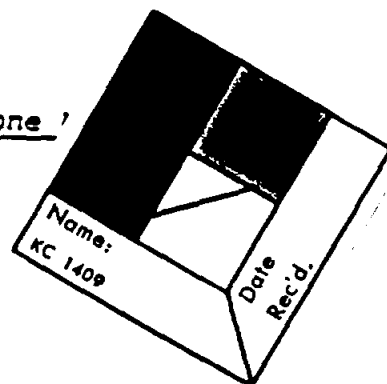
216-524-0200

Address

6100 Oak Tree Boulevard
Cleveland, Ohio 44131

Trade Name

1552



Chemical Name and Synonyms

Latex

Formula

Butadiene/Acrylonitrile

Chemical Family

Copolymer

SECTION II - HAZARDOUS INGREDIENTS

A. Vehicle

The latex is a uniform, anionic, colloidal dispersion of a high-molecular-weight copolymer in water.

B. Solvents

The latex contains no photochemically-reactive solvents -- no volatile organic solvents of any kind.

C. Heavy Metals

We do not utilize lead, mercury, or any other heavy metal or heavy metal compound in the manufacture of our butadiene/acrylonitrile latexes. However, due to the ubiquitous nature of these materials, trace quantities (ppm or ppb) can probably be found by using modern analytical techniques.

D. Vapors

1. The latex is free of sulfur dioxides and oxides of nitrogen. Nor would these materials be expected to be produced during typical drying operations. Water is the primary volatile material given off during the drying cycle.
2. The latex contains very low levels of residual monomer and raw material impurities which may be volatilized during normal elevated temperature drying (250-325°F.). The amount and type of these materials depend upon the particular latex involved and the exact drying conditions. Our manufacturing techniques are aimed at minimizing the level of volatiles other than water in our latexes. In the case of our butadiene/acrylonitrile latexes, the primary residual monomer is acrylonitrile. Because of residual monomers, some care must be exercised during storage. Please refer to page 7 of the L-13 Bulletin.

SECTION III - PHYSICAL DATA

Boiling Point (°F.)
Water - 212°F.

Specific Gravity (H₂O = 1)
0.98 - 1.02

Solubility in Water
Latex is water dilutable -
polymer is insoluble

Percent Volatile by Weight (%)
Water: 44 - 60%

Appearance and Odor
Cream colored liquid.
Slight characteristic odor.

pH
10.4

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media
For dry polymer - water

Special Fire Fighting Procedures
None required

Unusual Fire and Explosion Hazards
The latex contains very low levels of residual monomer. See page 7 of the L-13 Bulletin for comments on storage.

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value
Not applicable.

Effects of Overexposure
None known. In over 30 years of manufacturing and selling butadiene/acrylonitrile latex, we have not had a problem with dermatitis or inhalation of vapors. Liquid contact with eyes may cause irritation.

Emergency and First Aid Procedures

1. DO NOT INGEST - If ingested, contact physician.*
2. AVOID SKIN CONTACT - Wash thoroughly with cold water any part of the body which comes in contact with latex.
3. AVOID EYE CONTACT - Immediately flush eyes with water for at least 15 minutes. Contact physician.*

*NOTE: The pH of the latex should be given to the attending physician.

Stability

Stable X
Unstable

Hazardous Decomposition Products

None known

Hazardous Polymerization

May Occur
Will not Occur X

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled

Dam up, mop or absorb on inert material, and place into containers. If spilled in enclosed area, ventilate. Polymer can be separated from water through coagulation by the addition of alum. NOTE: Spilled latex is very slippery; use care to avoid falls. Latex will leave a film on drying. Remove saturated clothing and wash contacted skin areas with soap and water.

Waste Disposal Method

Sanitary landfill in accordance with federal, state, and local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type)

None

Ventilation

Exhaust to ventilate. Open, handle, and use under well-ventilated conditions.

Protective Gloves

Protective gloves suggested.

Eye Protection

Safety glasses suggested.

Other Protective Equipment

None


SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in Handling and Storing

Normal cleanliness. See attached L-13 Bulletin, Handling and Storing Latexes.

These data are based on tests believed to be reliable. They are given only for your information and no warranty, express or implied, is made as we cannot guarantee the results of operations not under our direct control. The information in this publication is not intended as permission or recommendation to practice a patented invention without permission of the patent owner.

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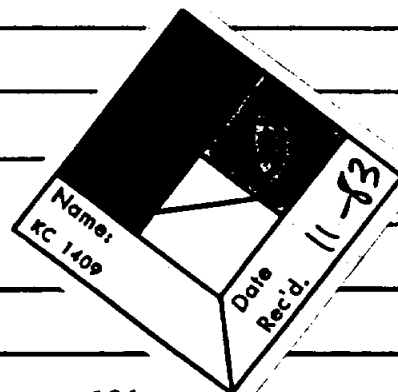
MANUFACTURER'S NAME Neville Chemical Company		REGULAR TELEPHONE NO. 412-331-4200 EMERGENCY TELEPHONE NO.
ADDRESS Neville Island Pittsburgh, PA 15225		
CHEMICAL NAME AND SYNONYMS 		CAS NO. 63393-89-5 UN NO.
TRADE NAME AND SYNONYMS COUMARONE-2		
CHEMICAL FAMILY Coumarone-Indene	FORMULA	
SHIPPING NAME: DOT: Resin, Coal Tar or Petroleum		IATA:

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	CAS NO. UN NO.	%	HAZARD DATA
CUMAR W-2 ₄ is considered non-hazardous under current Department of Labor definitions.			

Name:
KC 1409

11-83



III PHYSICAL DATA

BOILING POINT, 760 mm Hg	Does not apply	Softening Melting Point °C R&B	126
SPECIFIC GRAVITY (H ₂ O=1)	1.63	VAPOR PRESSURE (mm Hg at °C)	Does not apply
VAPOR DENSITY (AIR=1)	Does not apply.	SOLUBILITY IN H ₂ O, % BY WT.	Negligible
% VOLATILES BY VOL.	Non-Volatile	EVAPORATION RATE (°C)	Does not apply
APPEARANCE AND ODOR	Amber Flakes, CI odor	pH (AS IS) pH AT DILUTION	Neutral

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	540° F (COC)	AUTO IGNITION TEMPERATURE	---	FLAMMABLE LIMITS IN AIR, % BY VOL.:	LOWER: --- UPPER: ---
EXTINGUISHING MEDIA	Water, foam, water fog, dry chemical				
SPECIAL FIRE FIGHTING PROCEDURES	None				
UNUSUAL FIRE AND EXPLOSION HAZARD	None, however, dust accumulations should be avoided				

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	HAZARD CLASSIFICATION	BASIS FOR CLASSIFICATION	SOURCE
<u>ROUTES OF EXPOSURE</u> INhalation	0	Flaked product.	
SKIN CONTACT	0	No known effects unless allergy exists.	
SKIN ABSORPTION	0	Material is a flaked solid.	
EYE CONTACT	0	Dust particles if present can cause eye irritation.	
INGESTION	0	Material is a flaked solid. Ingestion would be extremely extraordinary.	

EFFECTS OF OVEREXPOSURE ACUTE OVEREXPOSURE

Avoid dust inhalation and skin contact. Allergic persons may be affected. Avoid eye contact.

CHRONIC OVEREXPOSURE

No known such effects. Allergic persons may react.

EMERGENCY AND FIRST AID PROCEDURES

EYES Flush with copious amounts of water.

SKIN Wash with soap and water. Use skin creams.

INHALATION Avoid dust inhalation. For overexposure to vapor or dust remove person to fresh air. Seek medical assistance if irritation persists.

INGESTION If irritation results, call a physician.

NOTES TO PHYSICIAN

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

Extremely high temperatures.

INCOMPATIBILITY (MATERIALS TO AVOID)

None

HAZARDOUS DECOMPOSITION PRODUCTS

CO, and CO₂ when combustion is incomplete.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Sweep up.

NEUTRALIZING CHEMICALS

None needed.

WASTE DISPOSAL METHOD OF SPILL OR LEAK

Normal disposal within EPA guidelines.

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

Good air flow.
Explosion proof motors.
Avoid electrical arc in high dusting conditions.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

Dust Mask

EYE

Goggles

GLOVES

Neoprene or Cotton

OTHER CLOTHING AND EQUIPMENT

Apron if necessary
Face shield if necessary

IX SPECIAL PRECAUTIONS

Labeling Information and Warnings

Non-hazardous

Data for Hazards Information Label

Hazard Code

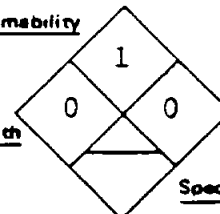
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

Flammability

Health

Reactivity

Special



Other Handling and Storage Requirements

Store in a cool dry place

X DISPOSAL

Waste Disposal Method

Normal disposal within local and federal government guidelines.

QUANTITATIVE TOXICITY (eq. 96 hr TLM): Non-toxic

XI GOVERNMENT REGULATIONS

REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS

FEDERAL

F&DA Regulations

175.300
175.105
176.170
177.1210
177.2600
176.180

STATE

OTHER

REGULATION HIGHLIGHTS

PREPARED BY: Francis X. Preuhs

COMPANY: Neville Chemical Company

ADDRESS: Neville Island Pittsburgh, PA 15225

TEL. NO.: (412) 331-4200



NEVILLE CHEMICAL COMPANY

PITTSBURGH, PA. 15223

September 27, 1974

CUMAR RESINS
COUMARONE-INDENE RESINS
HYDROCARBON RESINS
HYDROXY RESINS
PETROLEUM RESINS
PLASTICIZERS
RUBBER RECLAIM OILS
RUBBER ANTIOXIDANTS
SOLVENTS
COLOR PAVING MATERIALS
CHLORINATED PARAFFINS
U. V. LIGHT ABSORBERS

594
PLANTS AT:
NEWELL ISLAND, PA.
ANHEIM, CALIF.
MTA SPRINGS, CALIF.
WITBOOM, HOLLAND


Mr. M. G. Magel
Director of Purchasing
The Brown-Bridge Mills, Inc.
P. O. Box 370
Troy, Ohio 45373

Dear Mr. Magel:




As requested in your letter of September 20, I am enclosing a chart which will give you the various FDA regulations in which our resins are cleared. As you probably know, the CUMAR MH-2 1/2 and the CUMAR R-3 are coumarone-indene resins and are cleared under quite a number of regulations. In regard to the ~~XXXXXXXXXXXX~~, that is cleared in only one regulation, 121.2520, adhesives.

If we can be of further assistance in regard to these products of ours, please do not hesitate to let us know.

Sincerely,


Charles N. Beck
Sales Division

CNB:pm
Enclosure

Name: KC 1409		
		
Date Rec'd. 7-84		

NEVEX 100
 NEVCHEM 100-120
 R-1, R-6, LX-509
 Coumarone Indene
 LX 782, LX-685
 LX-1000, LX-1050
 NEVILLAC HARD, SOFT, 10°
 UNICHLOR
 CB-4-34
 NEVCHEM 140

	121.1050	121.2514	121.2520	121.2526	121.2550	121.2556	121.2562	121.2571
	X	X	X	X		X	X	
		X			X	X		
X	X	X	X	X	X			X
	X	X	X	X		X	X	
	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X
		X						
		X						
		X						
	X	X	X	X	X	X	X	X

Regulation 121.1050
 121.2514
 121.2520
 121.2526

121.2550
 121.2556
 121.2562
 121.2571

Coumarone-Indene Resin
 Resinous and Polymeric Coatings
 Adhesives
 Resinous and Polymer Coatings for Paper and
 Paperboard
 Closures with Sealing Gaskets for Food Containers
 Preservatives for Wood
 Rubber Articles Intended for Repeated Use
 Components of Paper and Paperboard in Contact
 with Dry Food

INFORMATION ON THE REACTION OF CHEMICALS WITH FOOD AND FEEDSTUFFS • INFORMATION ON THE REACTION OF CHEMICALS WITH FOOD AND FEEDSTUFFS

INFORMATION ON THE REACTION OF CHEMICALS WITH FOOD AND FEEDSTUFFS • INFORMATION ON THE REACTION OF CHEMICALS WITH FOOD AND FEEDSTUFFS

INFORMATION

INFORMATION ON THE REACTION OF CHEMICALS WITH FOOD AND FEEDSTUFFS • INFORMATION ON THE REACTION OF CHEMICALS WITH FOOD AND FEEDSTUFFS



MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LS8-003-4)



ICAL NAME: **BAKELITE 100% PHENOLIC-OIL-SOLUBLE-NON-HEAT-REACTIVE RESIN CK-2432**

SYNONYMS: —

CHEMICAL FAMILY: Phenolic Resins

FORMULA: —

MOLECULAR WEIGHT: —

TRADE NAME AND SYNONYMS: BAKELITE 100% Phenolic—Oil-Soluble—Non-Heat-Reactive Resin CK-2432

PHYSICAL DATA

BOILING POINT, 760 mm. Hg	Not applicable	R & B SOFTENING POINT	121-138°C.
SPECIFIC GRAVITY (H ₂ O = 1)	1.03-1.05 at 25°C.	VAPOR PRESSURE AT 20°C.	Not applicable
VAPOR DENSITY (air = 1)	Not applicable	SOLUBILITY IN WATER, % by wt.	Insoluble
PER CENT VOLATILES BY VOLUME	0	EVAPORATION RATE (Butyl Acetate=1)	Not applicable
APPEARANCE AND ODOR	Coarse, crushed solid; slight phenolic odor.		

HAZARDOUS INGREDIENTS

MATERIAL	%	TLV (Units)
Not applicable		

FLAME AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	Not applicable	AUTOIGNITION TEMPERATURE	797°F. (ASTM D 1929)	
FLAMMABLE LIMITS IN AIR, % by volume	LOWER	Not applicable	UPPER	Not applicable

EXTINGUISHING MEDIA

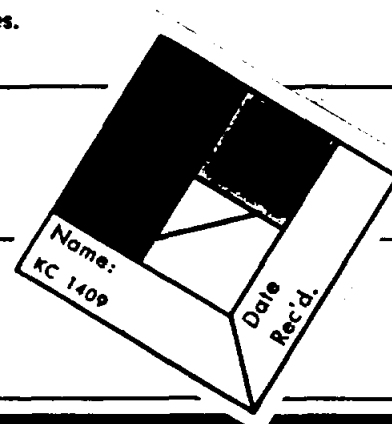
Use carbon dioxide or dry chemical for small fires.
Use foam (alcohol, polymer, or ordinary) and water for large fires.

SPECIAL FIRE FIGHTING PROCEDURES

Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARDS

Not applicable



Dr. C. U. Dernehl, 212/551-4785

Dr. K. S. Lane, 212/551-4787

C. P. Carpenter, Ph.D., 421/327-1020

or

212/551-2345; 304/744-3487

(nights, weekends, and holidays)

While Union Carbide Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of the tests conducted, the data are not to be taken as a warranty or representation for which Union Carbide Corporation assumes legal responsibility. They are offered solely for your consideration, investigation, and verification.

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	Not yet established
EFFECT OF OVEREXPOSURE	Repeated contact may cause skin sensitization and rash. Dust may irritate nose and throat.
EMERGENCY AND FIRST AID PROCEDURES	Wash dust from skin with soap and water.

V. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID	None -
UNSTABLE	STABLE		
—	✓		
INCOMPATIBILITY (materials to avoid)		None	
HAZARDOUS DECOMPOSITION PRODUCTS		Thermal decomposition or burning may produce carbon monoxide and/or carbon dioxide.	
HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID	None
May Occur	Will not Occur		
—	✓		

VI. SPILL OR LEAK PROCEDURES

PREVENTIVE MEASURES TO BE TAKEN WHEN MATERIAL IS RELEASED OR SPILLED	Sweep up and discard.
WASTE DISPOSAL METHOD	Bury or incinerate.

VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)		Dust respirator in confined areas	
VENTILATION	LOCAL EXHAUST	—	SPECIAL —
	MECHANICAL (general)	Acceptable	OTHER —
PROTECTIVE GLOVES	Plastic	EYE PROTECTION	Safety glasses
OTHER PROTECTIVE EQUIPMENT	Eye bath and safety shower		

VIII. SPECIAL PRECAUTIONS

PRECAUTIONARY LABELING	<p>BAKELITE® 100% PHENOLIC-OIL-SOLUBLE-NON-HEAT-REACTIVE RESIN CK-2432</p> <p>On the basis of the toxicological, physical, and chemical properties of BAKELITE 100% Phenolic-Oil-Soluble-Non-Heat-Reactive Resin CK-2432, precautionary labeling used on the containers is as follows:</p> <p style="text-align: center;">FOR INDUSTRY USE ONLY</p>
OTHER HANDLING AND STORAGE CONDITIONS	—



Moore & Munger Marketing, Inc.

Material Safety Data Sheet

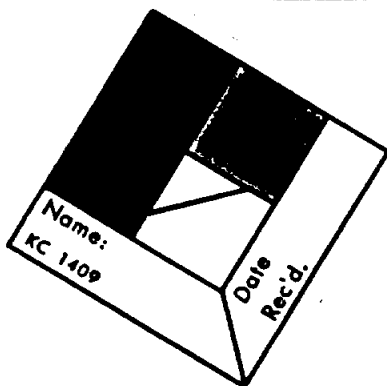
(Similar to Form OSHA-20)

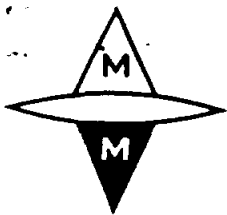
Section I	
SELLER'S-MANUFACTURER'S NAME Moore & Munger Marketing, Inc.	EMERGENCY TELEPHONE NO. (203) 259-7861
ADDRESS (Number, Street, City, State and ZIP Code) 140 Sherman Street, Fairfield, CT 06430	
CHEMICAL NAME AND SYNONYMS Petroleum Wax	TRADE NAME AND SYNONYMS [REDACTED]
CHEMICAL FAMILY Petroleum Hydrocarbon	FORMULA Complex mixture of petroleum hydrocarbon

Section II - Hazardous Ingredients					
PAINTS, PRESERVATIVES & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS None			BASE METAL		
CATALYST "			ALLOYS		
VEHICLE "			METALLIC COATINGS		
SOLVENTS "			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES "			OTHERS		
OTHER "					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES				%	TLV (Units)
None					

Section III - Physical Data			
Melting Point (°F.)	153	SPECIFIC GRAVITY (H ₂ O = 1) @ 150°F.	6.5 lbs/gal
VAPOR PRESSURE (mm Hg.) @ 68°F.	0.01	PERCENT VOLATILE BY VOLUME (%)	negligible
VAPOR DENSITY (AIR = 1)	12	EVAPORATION RATE (____ = 1)	
SOLUBILITY IN WATER	negligible	PH	
APPEARANCE AND ODOR	White crystalline wax, essentially odorless		

Section IV - Fire and Explosion Hazard Data				
FLASH POINT (Method used) Cleveland Open Cup	480 °F.	AUTO IGNITION	FLAMMABLE LIMITS	LeI UeI
EXTINGUISHING MEDIA CO ₂ <input checked="" type="checkbox"/> WATER <input checked="" type="checkbox"/> FOAM <input checked="" type="checkbox"/> DRY CHEMICAL <input checked="" type="checkbox"/> OTHER _____ (spray or fog)				
SPECIAL FIRE FIGHTING PROCEDURES Cool exposed containers with water spray. Avoid breathing vapor or fumes.				
UNUSUAL FIRE AND EXPLOSION HAZARDS				





Technical Bulletin

MOORE & MUNGER MARKETING, INC.

R 0855

(Formerly M&M 7355)

PARAFFIN WAX

TYPICAL TESTS

Congealing Point (°F.)	153
(ASTM D 938)	
Melting Point (°F.)	153
(ASTM D 87)	
Needle Penetration (mm/10) @ 77°F.	14
(ASTM D 1321)	
@ 100°F.	25
Color, Saybolt	+26
(ASTM D 156)	
Oil Content (%)	0.7
(ASTM D 721)	
Odor (0-4 Scale)	1.0
(ASTM D 1833)	
Viscosity, Kinematic, 210°F. (CS)	6.8
(ASTM D 445)	
Viscosity, Saybolt, 210°F. (SUS)	48
(ASTM D 88)	

This product conforms to Title 21 CFR, Part 172, Subpart I, Section 172.886: Petroleum Wax. Federal Food, Drug & Cosmetic Act (Secs. 409, 701, 72 Stat. 1785-1788; 21 U.S.C. 348,371).

June 1978
Revised 12/78

140 SHERMAN STREET • FAIRFIELD, CONNECTICUT 06430
(203) 259-7861

MIDWEST OFFICE: SUITE 430 • 701 LEE STREET • DES PLAINES, IL 60016
(312) 635-6460

Section V - Health Hazard Data

THRESHOLD LIMIT VALUE

5 mg/m³ for oil mist or fumes in air. (OSHA Regulation 29 CFR 1910.1000).

EFFECTS OF OVEREXPOSURE

TOXICITY RATING

ACUTE LOCAL:

ACUTE SYSTEMIC:

CHRONIC LOCAL:

CHRONIC SYSTEMIC:

FIRST AID TREATMENT

INHALATION:

SKIN CONTACT: If prolonged, wash with soap and warm water.

EYE CONTACT:

INGESTION (ANTIDOTE):

TOXIC HAZARD RATING CODE

- 0 None — (a) No harm under any conditions. (b) Harmful only under unusual conditions or overwhelming dosage.
- 1 Slight — Causes readily reversible changes which disappear after end of exposure.
- 2 Moderate — May involve both irreversible and reversible changes; not severe enough to cause death or permanent injury.
- 3 High — May cause death or permanent injury after short exposure to small quantities.
- U Unknown — No information on humans considered valid by authors.

Section VI - Reactivity Data

STABILITY

UNSTABLE

STABLE

X

CONDITIONS TO AVOID

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION

MAY OCCUR

WILL NOT OCCUR

X

CONDITIONS TO AVOID

Section VII — Spill or Leak Procedures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Recover free wax. Add absorbent (sand, earth, sawdust, etc.) to spill area. Keep petroleum products out of sewers and watercourses.

WASTE DISPOSAL METHOD

Assure conformity with applicable disposal regulations. Dispose absorbed material at approved waste site.

Section VIII - Special Protection Information

PROTECTIVE EQUIPMENT AND METHODS (Required with normal use):

EYE PROTECTION: Safety glasses recommended.

SKIN PROTECTION - MATERIAL RATING:

NEOPRENE _____ POLYVINYL ALCOHOL _____ (E) EXCELLENT (P) POOR
 NATURAL RUBBER _____ POLYETHYLENE _____ (G) GOOD (NR) NOT RECOMMENDED
 BUTYL RUBBER _____ POLYVINYL CHLORIDE _____ (F) FAIR
 MINIMAL RESPIRATORY PROTECTION: Normally not needed.

VENTILATION: LOCAL X GENERAL _____ NONE _____

Section IX - Special Precautions

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep containers closed when not in use. Do not handle or store near heat or flames.

OTHER PRECAUTIONS

Avoid breathing oil mist or fumes. Wash skin thoroughly with soap and warm water after handling. Use chemical resistant gloves and apron.

U.S. DEPARTMENT OF LABOR

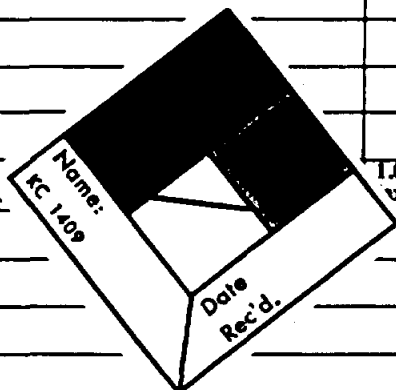
Occupational Safety & Health Administration

MATERIAL SAFETY DATA SHEET

SECTION I		
MANUFACTURER'S NAME	E. I. du Pont de Nemours & Co. (Inc.) Plastic Products and Resins Department	EMERGENCY TELEPHONE NO. 302-774-2421
ADDRESS (Number, Street, City, State, and ZIP Code) Wilmington, DE 19898		CHEM TREC 1-800-424-9300
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS	
CHEMICAL	FORMULA	
55% emulsion of A/E in water	Copolymer of x (C ₄ H ₆ O ₂) + y(C ₂ H ₄)	

CAS NO. 24937-78-8

SECTION II HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS		1.0 % 10 ppm			
OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)



SECTION III PHYSICAL DATA				
BOILING POINT (°F.)	at 760 mm Hg	212(100°C)	SPECIFIC GRAVITY (H ₂ O = 1)	1.08
VAPOR PRESSURE (mm Hg.)	at 25°C (77°F)	24	PERCENT VOLATILE BY VOLUME (%)	48 max.
VAPOR DENSITY (AIR = 1)		~0.6	EVAPORATION RATE (<u>n-BuOAc</u> = 1)	<1
SOLUBILITY IN WATER A/E is insoluble; the emulsion is miscible.			Freezing Point (°F)	32 (0°C)
APPEARANCE AND ODOR: Milk-white liquid with slightly sweet odor.				

SECTION IV FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used) None (ASTM D 3278-73 Closed Cup)	FLAMMABLE LIMITS	LeI	UeI
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES None			
UNUSUAL FIRE AND EXPLOSION HAZARDS Ignitable vapor may accumulate in the head space of containers of "Elvace". When opening, keep away from heat, sparks and open flames.			

NOTICE FROM DU PONT

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	Residual vinyl acetate monomer has TLV* of 10 ppm.
EFFECTS OF OVEREXPOSURE	Undiluted vapors may be irritating to eyes, nose and throat.
EMERGENCY AND FIRST AID PROCEDURES	
(1) Inhalation: Remove to fresh air if vapor is irritating. (2) Skin contact: Flush with water. (3) Eye contact: Symptom is mild conjunctival irritation. Wash eyes thoroughly with water. (4) Ingestion: No effect at 5% or 10% of diet in rats and dogs (Du Pont's Haskell Laboratory, unpublished data).	

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Do not freeze.
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Collect spill in settling pond or other collection/containment area. Use absorbent if convenient.
WASTE DISPOSAL METHOD
Preferred methods are incineration or burying. These or other methods should comply with local, state and federal regulations.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)		
Not required under normal use.		
VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) Yes	OTHER
PROTECTIVE GLOVES	Suggest gloves if contact is prolonged.	EYE PROTECTION Safety glasses
OTHER PROTECTIVE EQUIPMENT		

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
See bulletin E-27682 "Users' Guide for Du Pont Elvace® Acetate/Ethylene Copolymer Emulsions" for general guidance.
OTHER PRECAUTIONS

*Reg. U.S. Pat. & Tm. Off. for ACGIH Threshold Limit Values.

U.S. DEPARTMENT OF LABOR

Occupational Safety & Health Administration

MATERIAL SAFETY DATA SHEET

SECTION I		
MANUFACTURER'S NAME	E. I. du Pont de Nemours & Co., (Inc.) Polymer Products Department	EMERGENCY TELEPHONE NO. (302) 774-2421
ADDRESS (Number, Street, City, State, and ZIP Code) 1007 Market Street, Wilmington, Delaware 19898		
CHEMICAL NAME AND EMERGENCY		TRADE NAME AND
CHEMICAL FAMILY Polyolefin	FORMULA $[(CH_2CH_2)_x(CH_2CHOCOCH_3)_y]_n$	

SECTION II HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR C/		
ADDITIVES			OTHERS		
OTHERS Vinyl Acetate	<0.3	10 ppm			
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, &					
Elvax® resins are not considered hazardous materials.					
When processed with solvents or in hot melt compounds,					
precautions appropriate to those systems should be observed.					

SECTION III PHYSICAL DATA			
BOILING POINT (°F.)	Not Applicable	SPECIFIC GRAVITY (H ₂ O=1)	0.93-0.97
VAPOR PRESSURE (mm Hg.)	Not Applicable	PERCENT VOLATILE BY VOLUME (%)	0.3
VAPOR DENSITY (AIR=1)	Not Applicable	EVAPORATION RATE (_____ = 1)	Nil
SOLUBILITY IN WATER	Nil		
APPEARANCE AND ODOR Pelleted solid with mild ester odor.			

SECTION IV FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used) > 260° C (500° F) by Setaflash (Closed Cup).	FLAMMABLE LIMITS Not Applicable	Lel	Uel
EXTINGUISHING MEDIA Water, CO ₂ , foam, dry chemical			
SPECIAL FIRE FIGHTING PROCEDURES Nothing special			
UNUSUAL FIRE AND EXPLOSION HAZARDS Nothing special			

NOTICE FROM DU PONT

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

SECTION V HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	Not Applicable - Nonrespirable solid pellets.
EFFECTS OF OVEREXPOSURE	
EMERGENCY AND FIRST AID PROCEDURES	

SECTION VI REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Temperatures >204°C (>400°F)
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS Acetic acid. Carbon monoxide is partial combustion product as for most organic materials.			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Sweep up carefully to prevent falls. Pellets are slipping hazard.	
WASTE DISPOSAL METHOD	
Incinerate or bury but disposal method should be in compliance with local, state, and federal regulations.	

SECTION VIII SPECIAL PROTECTION INFORMATION		
RESPIRATORY PROTECTION (Specify type) Not required under normal processing conditions.		
VENTILATION	LOCAL EXHAUST Recommended for hot melt processing.	SPECIAL Depending on vehicle type in solvent processing.
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES Recommended when working with hot melts.		EYE PROTECTION Goggles for hot melt and solvent processing.
OTHER PROTECTIVE EQUIPMENT Long sleeve cotton shirt for hot melt processing.		

SECTION IX SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Store in cool, dry atmosphere. Avoid temperatures in excess of 38°C (100°F) to prevent pellet blocking.	
OTHER PRECAUTIONS Precautions must be taken to avoid static electricity sparks during the transfer of Elvax® resins to a dissolving kettle when solutions are prepared in flammable solvents. All metal parts of the mixing and processing equipment must be grounded.	



Technical Information

ADHESIVES & COATINGS

ADCOTE 37R610^B

Description

Adcote 37R610 is a water-based dispersion based on high molecular weight ethylene interpolymers. The major use for this dispersion is in the paper, film and foil converting industry where it may function as a heat seal coating, pigment binder, laminating adhesive, or a primer.

Adcote 37R610 is suggested for applications where a low temperature heat seal and good hot tack properties are needed. This product exhibits good adhesion to polyethylene, PVC, polypropylene, aluminum foil and PVDC-coated glassine. It may be heat sealed to untreated polyethylene. 37R610 has exceptionally good adhesion to polyester film.

This product has good block resistance to packaging films and has excellent hot tack.

Typical Dispersion Properties

Solids:	40%
Viscosity:	100 cps 1600 cps
pH:	10
Weight/Gallon:	8.4 lbs.

Compounding

Adcote 37R610 may be compounded in order to produce other functional coatings. The dispersion is stable in most alkaline systems but may coagulate under acidic conditions.

Stability

Adcote 37R610 exhibits good storage stability but mixing just prior to use is recommended in order to assure product uniformity. Freezing conditions should be avoided as freezing will coagulate the dispersion.

Application

Standard coating techniques, such as wire-wound rods and gravure, can be employed. However, as these dispersions are water-based, care should be taken to minimize the generation of foam. If a tendency to foam occurs, the addition of 0.05 - 0.2% (based on wet dispersing weight) of Foamkill 614¹ is recommended.

The dispersion may be reduced with water, preferably slightly basic, if a large amount is to be added. Drying should be effected by heat, giving rise to an approximate surface web temperature of 150 - 180°F. The coating will maintain a haze unless fused at a higher temperature.

Coat Weight

Coating weights should be in the area of 2.0 - 2.5 lb./ream for most applications, but the optimum weight will change with the specific end use.

Cleanup

Equipment cleanup may be accomplished by flushing with water. Deposits or spills are cleaned up by washing with warm, soapy water. Scrubbing with a brush may be necessary to loosen harder dried deposits. Warm toluene will aid in cleaning dried deposits.

¹Crucible Chemical Company, Donaldson Center, Greenville, SC 29605

Morton Chemical

2 North Riverside Plaza, Chicago, Illinois 60606 (312)621-5200
Division of Morton-Norwich Products, Inc.

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and of use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by following these suggestions. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

Properties Of The Dried Coating

Block Resistance

Good

Typical Bond Strength on
Various Substrates

Coated at 3 lb./ream and sealed coating to coating at 275°F/20 psi/1 sec. dwell. (The coating on MDPE was sealed at 220°F).

	Mylar	MDPE	OPP	Aluminum Foil
Coating to Coating	910 g/li	620 g/li	500 g/li	600 g/li
Coating to Substrate	400 g/li	410 g/li	440 g/li	310 g/li

FDA Status

"Assuming that the water vehicle is evaporated during a coating operation, Adcote 37R610 is composed of ingredients which are permissible for use as an adhesive according to the provisions of the applicable FDA Regulation 175.105."

Please bear in mind that one of the provisions of this section requires that a "Functional Barrier" be interposed between the adhesive and the food to be packaged.



Morton Chemical
2 North Riverside Plaza, Chicago, Illinois 60606
Division of ~~Morton~~Norwich Products, Inc.

Material Safety Data Sheet

(Except for the Company name this is "Essentially Similar" to Form LSB-OOS-4)

Section I Product Identification

Chemical Name: Polymer Dispersion or Emulsion Product Name: Adcote 37R610
Health Hazard Information Telephone 815/338-1800 For Other Information Telephone 312/621-5544
Principal Use: Proprietary

Section II Hazardous Ingredients

Material:	%	TLV

Section III Physical Data

Boiling Point °F 212 Weight Per Gallon 0.98
Vapor Pressure (mm hg.) 25 % Non-Volatile By Weight 40
Vapor Density (AIR=1) 1 Evaporation Rate (nBUOAc = 1) Water
Solubility in Water Miscible PH
Physical Form Cream colored emulsion Odor Mild

Section IV Fire and Explosion Hazard Data

Flash Point °F Flammable Limits Lel Uel
Method Used:

N/A

Extinguishing Media:

Water is recommended for combustible fiber containers

Special Fire Fighting Procedures:

None

Unusual Fire and Explosion Hazards:

None

No warranty expressed or implied is made except that the information herein is to the best of our knowledge from authoritative publications or is the result of determinations by experts.

Section V Health Hazard Data

Threshold Limit Value:

Unknown

Effects of Overexposure:

Product essentially non-irritating.

Emergency and First Aid Procedures:

Affected areas of the skin should be washed with warm water and soap. Flush eyes with copious amounts of water. Call a physician promptly.

Section VI Reactivity Data

Stability ☒ Stable ☐ Unstable Conditions to Avoid:

Extreme heat or freezing conditions. Emulsion may coagulate under freezing conditions.

Incompatibility: (Materials to Avoid)

Acids or salt solutions may coagulate emulsion.

Hazardous Polymerization: ☐ May Occur ☒ Will Not Occur Conditions to Avoid:

Hazardous Decomposition Products and Conditions:

None known.

Section VII Spill or Leak Procedures

Steps to be taken in case material is released or spilled:

Dike to prevent run-off. Mop or absorb latex with inert material and place in suitable container.

Waste Disposal Method:

Dispose of in accordance with Federal, State and Local Regulations.

Section VIII Special Protection Information

Respiratory Protection: (Specify type)

None needed.

Ventilation: ☐ Local Exhaust: ☐ Mechanical:

None needed.

Other Protective Equipment: ☐ Gloves: ☒ Eyes: ☐ Other:

Chemical goggles

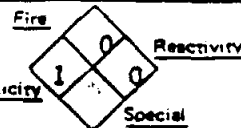
Section IX Special Precautions

Recommended Storage Conditions:

Protect product from overheating. Avoid freezing temperatures. Storage tanks should be lined or constructed of 316SS to prevent corrosion.

Other

No special precautions needed if product is handled in accordance with good manufacturing practices.

ROHM AND HAASCORPORATE HEALTH AND
INDEPENDENCE MALL
PHILADELPHIA, PAEPHONE
ROHM AND HAAS
J(CHEMTREC)**HAZARD RATING**4 - EXTREME
3 - HIGH
2 - MODERATE
1 - SLIGHT
0 - INSIGNIFICANT
• CHRONIC HEALTH HAZARD - SEE SECTION IV**LIST 8**

MATERIAL

POLYETHYLENE**SAFETY DATA SHEET**

CODE

64335

KEY

905018-0

FREIGHT CLASSIFICATION

PLASTIC LIQUID, NOI

DATE ISSUED

04/08/81

FORMULA

CHEMICAL NAME OR SYNONYMS

Polyethylene wax emulsion**(I - INGREDIENTS)**

Polyethylene polymer

WEIGHT %

40.0

TWA/TLV

Not established

(II - PHYSICAL DATA)

APPEARANCE - ODOOR - pH

Milky-white liquid; odorless; pH 7.7

VISCOSITY

No data

MELTING OR FREEZING POINT

32F water

BOILING POINT

212F water

VAPOR PRESSURE (mm Hg)

17 mm Hg @ 68F

VAPOR DENSITY (AIR = 1)

Heavier

SOLUBILITY IN WATER

Dilutable

PERCENT VOLATILE (BY WEIGHT)

60 water

SPECIFIC GRAVITY (WATER = 1)

0.97

EVAPORATION RATE (BUTYL ACETATE = 1)

Slower

(III - FIRE AND EXPLOSION HAZARD DATA)

FLASH POINT

NA

AUTO IGNITION TEMPERATURE

NA

LOWER EXPLOSION LIMIT (%)

NA

UPPER EXPLOSION LIMIT (%)

NA

EXTINGUISHING MEDIA

☐ FOAM☐ "ALCOHOL"☐ CO₂☐ DRY☐ WATER☒ OTHER

Non-combustible

SPECIAL FIRE FIGHTING PROCEDURES

Wear MSHA/NIOSH approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Polyethylene emulsions will not burn. They may spatter if temperature exceeds boiling point (212F). Dried polymer films are capable of burning.

(IV - HEALTH HAZARD DATA)

RECOMMENDED ROHM AND HAAS HEALTH GUIDE TWA (MAXIMUM TIME-WEIGHTED-AVERAGE CONCENTRATION FOR AN 8-HOUR WORK PERIOD)

EFFECTS OF OVEREXPOSURESkin Contact: Prolonged or repeated contact with emulsion may cause skin irritation.Eye Contact: Direct eye contact with emulsion may result in eye irritation.**EMERGENCY AND FIRST AID PROCEDURES**Inhalation: Remove subject to fresh air.Eye and Skin Contact: Immediately flush eyes with plenty of water for at least 15 minutes and consult physician; wash skin thoroughly with soap and water; if drenched, remove and wash clothing before reuse.Ingestion: If victim is conscious, give two glasses of water to drink and call physician.

V - REACTIVITY DATA

STABILITY	CONDITIONS TO AVOID	
STABLE <input type="checkbox"/> UNSTABLE <input type="checkbox"/>	NA	
HAZARDOUS DECOMPOSITION PRODUCTS		
Normal decomposition may yield oxides of carbon		
HAZARDOUS POLYMERIZATION	CONDITIONS TO AVOID	
MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR <input type="checkbox"/>	NA	
INCOMPATIBILITY (MATERIALS TO AVOID)		
WATER <input type="checkbox"/> OTHER <input type="checkbox"/>	NA	

VI - SPILL OR LEAK PROCEDURE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove unnecessary people away. Dike and contain spill with inert material (sand, earth, etc.) transfer the liquid to containers for recovery or disposal. Keep spill out of sewers and bodies of water. Floors may be slippery, care should be exercised to avoid falls.

Notes: Emulsions can be coagulated by stepwise addition of lime and ferric chloride or ferric sulfate to a water clear endpoint.

WASTE DISPOSAL METHODS

Use an uncoagulated emulsion or the coagulum should be incinerated in approved equipment. Coagulum and contaminated diking material should be landfilled according to current local, state and federal regulations. Clear water may be sewer for biological treatment.

VII - SPECIAL PROTECTION INFORMATION

VENTILATION TYPE

Mechanical local exhaust at point of contaminant (vapor, mist or dust) release.

RESPIRATORY PROTECTION

None required if good ventilation is maintained. Otherwise wear suitable MSHA/NIOSH approved respirator where vapor concentrations are encountered.

PROTECTIVE GLOVES

EYE PROTECTION

Impervious

Splashproof safety goggles (ANSI Z87.1, 1979)

OTHER PROTECTIVE EQUIPMENT

Emergency eyewash facility, emergency shower

VIII - STORAGE AND LABELING

STORAGE TEMPERATURE		INDOOR	HEATED	REFRIGERATED	OUTDOOR
MAX. 140F	MIN. 34F	YES	NO	NO	YES

PRECAUTIONARY LABELING: KEEP FROM FREEZING - PRODUCT STABILITY MAY BE AFFECTED.

IX - TOXICITY INFORMATION

X - MISCELLANEOUS INFORMATION

NOTE: Spray from emulsions must not be inhaled, respirators should be provided if engineering controls are not adequate. Inhalation exposures to dusts or mists of polymer should be maintained at less than 10 mg/M3 8-hour TWA limit established for nuisance dusts.

NA - NOT APPLICABLE
C - CEILING VALUE

KEY

905018-0

DATE OF ISSUE

04/08/81

SUPERSEDES

01/03/78

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHERMORE, VENDEE ASSUMES THE RISK IN HIS USE OF THE MATERIAL.

VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSON PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY



Shell

87002 (1-811)

MATERIAL SAFETY DATA SHEET

MSDS NUMBER

184-2

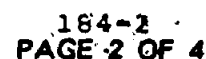
PAGE 1 OF 4

SECTION I: PRODUCT IDENTIFICATION		24 HOUR EMERGENCY ASSISTANCE	
PRODUCT NAME	[REDACTED]	SHELL 8713-473-9461	HEALTH FIRE REACTIVITY
CHEMICAL & SYNONYMS	[REDACTED]	CHEMTREC 800-424-9300	
CHEMICAL FAMILY	Epoxy resin	LEAST 0 SLIGHT 1 MODERATE HIGH EXTREME 4	
SHELL CODE	43582	C.A.S. NUMBER	25068-38-6

SECTION II: COMPOSITION		INGREDIENTS	
EPON Resin 1001F	100	Not determined	
Epichlorohydrin (ECH) content: 5 ppm, max., and typically <1 ppm.			
SECTION III: PHYSICAL DATA		SECTION IV: TOXICITY DATA	
[REDACTED]		[REDACTED]	

SECTION III: HEALTH INFORMATION	
Dust can cause mechanical irritation of eyes and respiratory passages.	
<p>NOTE: It is very unlikely that normal work operations with EPON Resin 1001F could produce atmospheric ECH concentrations approaching the OSHA limit. Nevertheless, you should be aware that ECH has been reported to produce cancer in laboratory animals and to produce mutagenic changes in bacteria and cultured human cells. An analysis of all the evidence to date (through 1979) in an ongoing epidemiology study of ECH workers has been reported to show "weak" evidence that exposure to epichlorohydrin poses a cancer risk to humans.</p>	
ANSI Classification: 1	
The Oral LD ₅₀ (rat) for EPON Resin 1001, which is similar in composition, is >30 g/kg.	

SECTION IV: OCCUPATIONAL EXPOSURE LIMITS	
For ECH: ACGIH-TLV/TWA = 2 ppm (skin), STEL = 5 ppm; OSHA-PEL/TWA = 5 ppm (skin); Shell internal standard-TWA = 1 ppm, STEL = 3 ppm. For nuisance dust: ACGIH-TLV/TWA: Respirable dust = 5 mg/m ³ ; Total dust = 10 mg/m ³ .	



97003 (1-81)

*NOTE TO THE PHYSICIAN: In general, emesis induction is unnecessary for solid resins.

Amber flakes

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

Wear full protective equipment including self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS

form explosive dust clouds.

STIMULI EXPOSURE LIMITS

REF ID: A671139-AMAD : 10

REF ID: A66544



MATERIAL SAFETY DATA SHEET

MSDS NUMBER

184-2

PAGE 3 OF 4

SECTION VIII

REACTIVITY

STABILITY ☐ UNSTABLE ☒ STABLEHAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID. **Can react vigorously with strong oxidizing agents and strong Lewis or mineral acids.**

HAZARDOUS DECOMPOSITION PRODUCTS

CO, aldehydes, and acids from incomplete combustion.

SECTION IX

EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

Use a NIOSH approved respirator to prevent overexposure if exposure levels may or do exceed limits in Section IV. Use either an atmosphere supplying respirator or an air purifying respirator for particulates in compliance with 29 CFR 1910.134.

PROTECTIVE CLOTHING

Wear gloves and other protective clothing as required to minimize skin contact. Wear chemical goggles to prevent eye contact.

ADDITIONAL PROTECTIVE MEASURES

Provide explosion-proof ventilation as required to control dust levels in air.

SECTION X

ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

Wear an approved respirator and appropriate protective clothing. Sweep up or pick up with industrial vacuum. Place sweepings in tight containers.

WASTE DISPOSAL

Remove to a waste disposal facility operating in compliance with state and local regulations.

ENVIRONMENTAL HAZARDS



MATERIAL SAFETY DATA SHEET

MSDS NUMBER

184-2

PAGE 4 OF 4

97005 (REV. 7-82)

SECTION XI**SPECIAL PRECAUTIONS**

Handling can create explosive dust clouds. Eliminate ignition sources, explosion-proof equipment (motors, switches, etc.). Conveying and processing equipment should be spark-proof, well bonded and grounded.

Practice good housekeeping. Avoid dust accumulation.

Handle in accordance with the hazard potential of the curing agent used.

Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse.

SECTION XII**TRANSPORTATION REQUIREMENTS**

DEPARTMENT OF TRANSPORTATION CLASSIFICATION	<input type="checkbox"/> FLAMMABLE LIQUID	<input type="checkbox"/> COMBUSTIBLE LIQUID	<input type="checkbox"/> OXIDIZING MATERIAL	<input type="checkbox"/> NON-FLAMMABLE GAS
	<input type="checkbox"/> FLAMMABLE SOLID	<input type="checkbox"/> POISON CLASS A	<input type="checkbox"/> CORROSIVE MATERIAL	<input checked="" type="checkbox"/> NOT HAZARDOUS BY D.O.T. REGULATIONS
	<input type="checkbox"/> FLAMMABLE GAS	<input type="checkbox"/> POISON CLASS B	<input type="checkbox"/> IRRITATING MATERIAL	<input type="checkbox"/> OTHER

D.O.T. PROPER SHIPPING NAME

OTHER REQUIREMENTS

SECTION XIII**OTHER REGULATORY CONTROLS**

EPA, FDA, OSHA, USDA, CPSC, etc.

ENVIRONMENTAL PROTECTION

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

BE SAFE

READ OUR PRODUCT
SAFETY INFORMATION
... AND
PASS IT ON

(PRODUCT LIABILITY LAW
REQUIRES IT)

John P. Lepore
Manager
SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
OIL AND CHEMICAL PRODUCTS
P.O. BOX 4320
HOUSTON, TEXAS 77210

DATE PREPARED

April 23, 1982

GRACE

Davison Chemical Division
W. R. Grace & Co.
P.O. Box 2117
Baltimore, Maryland 21203
(301) 659-9000

MATERIAL SAFETY DATA SHEET

SAFETY DATA

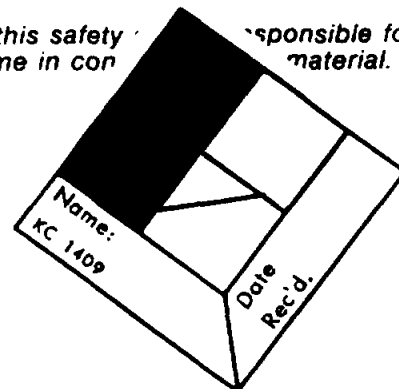
PRODUCT: SYLOID (R) 244/SYLOID (R) 244FP

DATE: April 8, 1982

Emergency Contact:

B. L. Mobley, Supervisor Environmental Control Telephone No.: 301-997-8286 (Home) 301-659-9058 (Office)

The following information includes safety data required by OSHA. The recipient of this safety information is responsible for passing the safety information on so that it reaches the ultimate user who may come in contact with this material.



TRADE NAME: SYLOID 244/SYLOID 244FP

CHEMICAL NAME
& FAMILY: Synthetic Amorphous Silica

SYNONYMS: Amorphous Silicon Dioxide, Silica Gel, Silicic Acid

CHEMICAL NOTATION
OR STRUCTURE: $\text{SiO}_2 \cdot x\text{H}_2\text{O}$

INGREDIENTS: Amorphous Silica and absorbed moisture

SYLOID 244/SYLOID 244FP is a fine-size, synthetic amorphous silica, not to be confused with crystalline silica such as quartz, cristobalite or tridymite or with diatomaceous earth or other naturally occurring forms of amorphous silica that frequently contain crystalline forms.

CAS REGISTRY NO: 63231-67-4 (Silica Gel)

RTECS NO: VV 7322000 (Synonyms and OSHA standards given are all in error).
RTECS should be considered as a source of literature references, not a source of authoritative information.

HEALTH INFORMATION

Page 2 of 4

PRECAUTIONS IN USE:

Users of SYLOID(R) 244/SYLOID (R) 244FP should avoid prolonged breathing of the dust or contact of dust with the skin. The drying action of this material can cause irritation of the mucous membranes of the nose and throat and irritation of the skin. If its use requires manual handling, wear long sleeves and close-weave cotton gloves with tight-fitting wristlets. If dusty conditions prevail, wear a properly fitted NIOSH-approved dust respirator. Wear goggles if dust causes eye discomfort.

Keep workplace dust levels below the OSHA Timeweighted Average (TWA) limit of 20 million particles per cubic foot. If particle count equipment is not available, "nuisance dust" limits of 10 mg/m³ of air must be observed as a maximum. The Threshold Limit Value (TLV) of 6 mg/m³ proposed by the American Conference of Governmental Industrial Hygienists (ACGIH) is recommended. The recommended limit for respirable dust is 3 mg/m³.

When pouring into a container of flammable liquid, ground both containers electrically to prevent a static electric spark. See SPECIAL INFORMATION for the National Paint and Coatings Association rating.

FIRST AID:

Wash from skin or eyes with water. If swallowed, drink plenty of water immediately. Material will pass body normally.

TOXICOLOGY

ANIMAL TOXICOLOGY

TESTS FOR DOT HAZARD CLASSIFICATION:

1-hour LC₅₀ (rat) >2 mg/l
48-hour oral LD₅₀ (rat) est. > 31,600 mg/Kg
48-hour dermal LD₅₀ (rabbit) est. >2 g/Kg
Not considered an ocular irritant.

TESTS FOR FDA APPROVAL FOR USE IN FOODS:

LD₅₀ (mice) 8,000 mg/Kg (limit of test)
LD₅₀ (rats) 4,500 mg/Kg (limit of test)
6 months' feeding tests (rats) at levels up to 10% of diet produced no effects.

HUMAN TOXICOLOGY:

No reliable data available. No known hazards in normal range.
Oral toxicity is considered very low.
Inhalation toxicity: Acute - Very low.
Chronic - Not determined, but not considered a serious hazard.

MATERIAL SAFETY DATA SHEET

ENVIRONMENTAL DATA

Page 3 of 4

SYLOID (R) 244/SYLOID (R) 244FP is not known to have any adverse effect on the aquatic environment. It is insoluble and nontoxic.

TYPICAL CHEMICAL & PHYSICAL INFORMATION

APPEARANCE:	Dry White Powder, Average Particle Size 3 microns
pH IN 5% SLURRY:	7.0
ODOR:	None
SPECIFIC GRAVITY:	2.1
BULK DENSITY:	8.0 lb./ft. ³
SOLUBILITY IN WATER:	Insoluble
APPROXIMATE ANALYSIS:	SiO ₂ (Ignited Basis) - 99.4% LOI @ 1750° F - 8.5% Heavy Metals - Less than 30 ppm Lead - Less than 10 ppm Crystalline Silica - Not detectable
STABILITY:	Stable
REACTIVITY:	Reacts with HF
FIRE & EXPLOSION DATA:	Nonflammable

REGULATORY STATUS

Page 4 of 4

- OSHA—** Maximum permissible limit of dust in workplace: 20 mppcf. Weight-basis formula in 29 CFR 1910.1000 Table Z-3 ($80 \text{ mg/m}^3 \div \% \text{ SiO}_2$) is not valid. See ACGIH.
- NIOSH—** Animal inhalation tests conducted in 1976-1978. 18-month exposure at 15 mg/m^3 showed silica deposition in respiratory macrophages and lymph nodes, minimum lung function impairment, and no silicosis.
- EPA—** Not a regulated toxic substance or hazardous waste.
- ACGIH—** 1981 TLV - 20 mppcf; proposed change to weight basis:
6 mg/m^3 total dust
3 mg/m^3 respirable dust
- USDA—** Cleared for certain uses in salt and seasonings, and in curing mixtures for meat and poultry products.
- FDA—** SYLOID (R) silicas have been cleared for certain uses in foods as per 21 CFR 160.105, 160.185, and 172.480. For food or pharmaceutical use, FP SYLOID silicas should be specified.
- DOT—** Not a regulated material.

HANDLING INFORMATION

- STORAGE AND TRANSPORTATION:** Keep tightly sealed to protect quality.
- DISPOSAL:** Landfill. Cover promptly to avoid blowing of dust.
- SPILLAGE AND CLEANUP:** Sweep or vacuum up or flush to sewer.
- CONTAINERS:** Paperbags.

SPECIAL INFORMATION

Hazardous Materials Identification System (HMIS) for paint manufacturers as proposed by the National Paint and Coatings Association:

HEALTH HAZARD	- 0
FLAMMABILITY	- 0
REACTIVITY	- 0
PERSONAL PROTECTION	- *

MIS assigns choice of protective equipment to paint manufacturer, as the raw material supplier is unfamiliar with condition of use.

I. PRODUCT IDENTIFICATION

CHEMICAL NAME NA AND SYNONYMS	REGULAR TELEPHONE NO. 302-575-5000 EMERGENCY TELEPHONE NO. 302-995-3000
CHEMICAL FAMILY Hydrocarbon resin	CAS NO. -
FORMULA NA	MOLECULAR WEIGHT NA
TRADE NAME AND SYNONYMS Piccotex [®] Resins 75, 100, 120	

II. HAZARDOUS INGREDIENTS

MATERIAL	%	TLV-TWA VALUES ADOPTED BY ACGIH
Note: As Hercules interprets the U. S. Occupational Safety and Health Act of 1970, these products should not be considered hazardous materials.		

III. PHYSICAL DATA




BOILING POINT, 760 mm Hg	NA	SOFTENING POINT	72 - 121°C (161-267°F)
VAPOR PRESSURE @	Unknown	SPECIFIC GRAVITY (H ₂ O=1)	1.04
VAPOR DENSITY (AIR=1)	NA	PERCENT VOLATILE BY VOLUME (%)	Unknown
SOLUBILITY IN WATER. % BY WEIGHT @	Negligible -	EVAPORATION RATE (BUTYL ACETATE=1)	Less than one
APPEARANCE AND ODOR: - Clear solid or flake; low odor.			

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT Greater than 257°C (TEST METHOD) (495°F) COC		AUTOIGNITION Not available TEMPERATURE	
FLAMMABLE LIMITS IN AIR PERCENT BY VOLUME	LOWER NA		UPPER NA
EXTINGUISHING MEDIA: Water spray			
SPECIAL FIRE-FIGHTING PROCEDURES: None			

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable dust when finely divided and suspended in air.

NOTES: NA = NOT APPLICABLE

			Date Rec'd.
Name:			
KC 1409			

We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products.

V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Not established. See note below.

EFFECTS OF OVEREXPOSURE: None known.

EMERGENCY AND FIRST AID PROCEDURES: None required.

VI. REACTIVITY DATA

STABILITY	CONDITIONS TO AVOID: None		
UNSTABLE			
STABLE	X		
INCOMPATIBILITY (MATERIALS TO AVOID): None			
HAZARDOUS DECOMPOSITION PRODUCTS: None			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID: None
	WILL NOT OCCUR	X	

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: If material is not contaminated, scoop into a clean container for use. If contaminated, scoop into containers for disposal.

WASTE DISPOSAL METHOD: Landfill in accordance with local, state and Federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)	Nuisance dust respirator approved by NIOSH/MSHA (formerly MSHA)			
VENTILATION	LOCAL EXHAUST	Recommended	SPECIAL	-
	MECHANICAL (GENERAL)	-	OTHER	-
PROTECTIVE GLOVES: -			EYE PROTECTION: Safety glasses	
OTHER PROTECTIVE EQUIPMENT: None				

IX. SPECIAL PRECAUTIONS

PRECAUTIONARY LABELING: CAUTION! Flammable dust when finely divided and suspended in air. Keep away from sparks and open flame. Use with adequate ventilation.

NOTE FOR SECTION V - This material is not expected to cause physiologic impairment at low concentration. Nevertheless, until a specific TLV is adopted by the American Conference of Governmental Industrial Hygienists (ACGIH), Hercules Incorporated suggests that this material be treated as a nuisance dust or particulate in accordance with the recommendations of ACGIH.

OTHER HANDLING AND STORAGE CONDITIONS: Flaked forms are prone to gradual oxidation. Control inventory. Use oldest material first.

July 30, 1972

U.S. DEPARTMENT OF LABOR
WORKPLACE STANDARDS ADMINISTRATION
Bureau of Labor Standards

OSHA-20
Form No. 100-000-4
May 1969
1971

MATERIAL SAFETY DATA SHEET

SECTION I

Springfield, Mass.
DAY: (413) 788-6911

MANUFACTURER'S NAME

MONSANTO COMPANY

EMERGENCY TELEPHONE NO.
NIGHT: (413) 788-4521

ADDRESS (Number, Street, City, State, and ZIP Code)

800 North Lindbergh Boulevard, St. Louis, Missouri 63166

CHEMICAL NAME AND SYNONYMS

Aqueous Dispersion of Polyvinyl Acetate

TRADE NAME AND SYNONYMS

Galva Emulsion VTS-3

CHEMICAL FAMILY

Polyvinyl Acetate Resin

FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIONALS			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

% TLV (Units)

Not hazardous by definition in 29CFR, Section 1501.2 which pertains to this Data Sheet.

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	Water	212°F	SPECIFIC GRAVITY (H ₂ O=1)	1.10
VAPOR PRESSURE (mm Hg.)	Water	17.5	PERCENT VOLATILE BY VOLUME (%)	45
VAPOR DENSITY (AIR=1)	Water	0.62	EVAPORATION RATE (ether=1)	<1
SOLUBILITY IN WATER	Dispersibility	Complete		
APPEARANCE AND ODOR	White viscous liquid; slight acrid odor			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	LeI	UeI
EXTINGUISHING MEDIA	Water fog, CO ₂ or foam				
SPECIAL FIRE FIGHTING PROCEDURES	None				
UNUSUAL FIRE AND EXPLOSION HAZARDS	N/A				

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE None established

EFFECTS OF OVEREXPOSURE None established

EMERGENCY AND FIRST AID PROCEDURES

Use normal hygienic procedure such as removal of soaked clothing, and showers. Flush eyes with water to avoid local irritation.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	XX	

INCOMPATIBILITY (Materials to avoid) None

HAZARDOUS DECOMPOSITION PRODUCTS

Burning of the resin content could yield CO₂ and CO as well as H₂O.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	XX	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Apply sawdust or sweeping compound to soak up. For large spills use "bailing" methods into containers. Soak up balance. Shovel into containers.

WASTE DISPOSAL METHOD

Send to dry land fill. Flush to sewer or settling ponds if local regulations permit.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Not needed

VENTILATION	LOCAL EXHAUST Normal room ventilation	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES Rubberized gloves	EYE PROTECTION Goggles
--	-----------------------------

OTHER PROTECTIVE EQUIPMENT Rubber shoes or boots

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid freezing. Do not store in closed drums or vessels near high temperature sources.

OTHER PRECAUTIONS

Witco MATERIAL SAFETY DATA SHEET

Page 1 of 2

SECTION I

PRODUCT

WITCO MANUFACTURING DIVISION OR SUBSIDIARY Humko Chemical		EMERGENCY TELEPHONE MANUFACTURER
ADDRESS (NUMBER, STREET, CITY, STATE, ZIP CODE) P. O. Box 125, Memphis, TN 38101		901 320-5800
CHEMICAL NAME OR FAMILY Erucamide (Fatty Amide)	FORMULA C₂₂H₄₃NO	CHEM TREC 1-(800) 424-9300

SECTION II - CHEMICAL AND PHYSICAL PROPERTIES

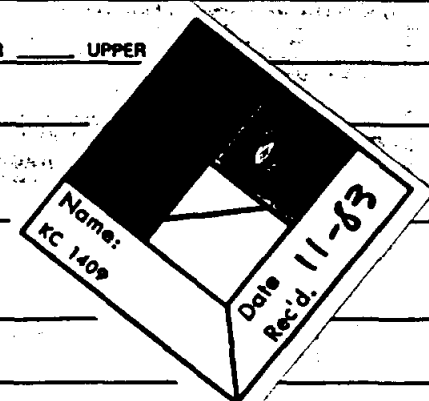
BOILING PT. <u>above</u> <u>650</u> °F	VAPOR PRESSURE (mmHg at 20°C) Negligible	VAPOR DENSITY (AIR = 1) Negligible	SPECIFIC GRAVITY (H ₂ O = 1) 0.88
MELTING PT. <u>approx. range 78°-85°</u> °C	SOLUBILITY IN H ₂ O AT <u>Nil</u> °C	PERCENT VOLATILE (BY WT. %) Negligible	STRONG ACID <input type="checkbox"/> STABLE <input checked="" type="checkbox"/>
EVAPORATION RATE (H ₂ O = 1) Negligible	PHYSICAL FORM AND ODOR A mild odor - typically fatty. Light tan powder or pellets.		STRONG BASE <input type="checkbox"/> UNSTABLE <input type="checkbox"/>
HAZARDOUS DECOMPOSITION PRODUCTS CO₂ and oxides of nitrogen from burning.			
INCOMPATIBILITY (KEEP AWAY FROM) NONE			

LIST ALL TOXIC AND HAZARDOUS INGREDIENTS

Contains no component listed in 29CFR 1910.1000 Tables Z-1, Z-2, or Z-3 nor anything in other pertinent sections of 29 CFR 1910.1001 thru 1910.1029.

SECTION III - FIRE AND EXPLOSION DATA

FLASH POINT (METHOD USED) <u>above 500</u> °C	Not available FLAMMABLE LIMITS % LOWER _____ UPPER _____
EXTINGUISHING AGENTS <input checked="" type="checkbox"/> DRYCHEMICAL <input checked="" type="checkbox"/> CO ₂ <input type="checkbox"/> WATERSPRAY <input checked="" type="checkbox"/> FOAM	
SPECIAL FIRE FIGHTING PROCEDURES DO NOT USE STREAM OF WATER AS FATTY MATERIAL WILL FLOAT.	
UNUSUAL FIRE AND EXPLOSION HAZARDS ONLY USUAL HAZARD FROM ORGANIC DUST.	



SECTION IV - HEALTH HAZARD DATA

PERMISSIBLE CONCENTRATIONS (AIR) NOT AVAILABLE	EFFECTS OF OVEREXPOSURE NORMAL IRRITATION FROM DUST PARTICLES
TOXICOLOGICAL PROPERTIES NO KNOWN EFFECTS FROM OVEREXPOSURE. ACUTE ORAL LD-50 IN EXCESS OF 10 GRAMS PER KILOGRAM OF BODY WEIGHT. (NON-TOXIC ORALLY BY FHSLA GUIDELINES)	
EMERGENCY FIRST AID PROCEDURES	
EYES	FLUSH EYES WITH COPIOUS AMOUNTS OF WATER AND CONSULT A PHYSICIAN IMMEDIATELY.
SKIN CONTACT	WASH SKIN WITH SOAP AND WATER IMMEDIATELY AND SEE A PHYSICIAN IF IRRITATION OCCURS.
INHALATION	
IF SWALLOWED	

PRODUCT Kemamide E

SECTION V - SPECIAL PROTECTION INFORMATION

VENTILATION TYPE REQUIRED (LOCAL, MECHANICAL, SPECIAL)	
LOCAL EXHAUST	
RESPIRATORY PROTECTION (SPECIFY TYPE)	
NONE NECESSARY	
PROTECTIVE GLOVES	EYE PROTECTION
RECOMMENDED	RECOMMENDED
OTHER PROTECTIVE EQUIPMENT	

SECTION VI - HANDLING OF SPILLS OR LEAKS

PROCEDURES FOR CLEAN-UP
MAY BE PICKED UP WITH ANY SUITABLE SCOOP NO HAZARD IN SOLID FORM
WASTE DISPOSAL
DISPOSE OF WASTE MATERIAL IN ACCORDANCE WITH ANY APPLICABLE LOCAL, STATE AND FEDERAL REGULATION.

SECTION VII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
KEEP DRUMS CLOSED. STORE IN DRY PLACE, PROTECT FROM EXCESSIVE HEAT.

SECTION VIII - TRANSPORTATION DATA

<input checked="" type="checkbox"/> UNREGULATED BY D.O.T.	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS.
U.S. D.O.T. PROPER SHIPPING NAME	
LABEL REQUIRED	
TRANSPORTATION EMERGENCY INFORMATION	
CHEM TREC 1-(800) 424-9300	

SECTION IX - COMMENTS

C.A.S. REGISTRY NUMBER: 112-84-5

SIGNATURE <u>[Signature]</u>	TITLE <u>Regulatory Compliance</u>
REVISION DATE <u>8-25-81</u>	DATE SENT <u>8-25-81</u>

Form Approved OMB
No. 44-R1387
A. oval Expires:
July 30, 1972

U.S. DEPARTMENT OF LABOR

Gelva Latex E-900

Form No. OSHA-20
May, 1971

MATERIAL SAFETY DATA SHEET

SECTION I				Springfield, Mass.	
MANUFACTURER'S NAME MONSANTO COMPANY			Days: (413) 788-6911		
ADDRESS (Number, Street, City, State, and ZIP Code) 800 North Lindbergh Boulevard, St. Louis, Missouri 63166			EMERGENCY TELEPHONE NO. Nights: (413) 788-4521		
CHEMICAL NAME AND SYNONYMS Methyl Methacrylate Copolymer Latex			TRADE NAME AND SYNONYMS [REDACTED]		
CHEMICAL FAMILY Vinyl Acetate/Methyl Methacrylate Copolymer Resin			FORMULA		
SECTION II HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES	SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	% TLV (Units)
PIGMENTS				BASE METAL	
CATALYST				ALLOYS	
VEHICLE				METALLIC COATINGS	
SOLVENTS				FILLER METAL PLUS COATING OR CORE FLUX	
ADDITIVES				OTHERS	
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES					% TLV (Units)
Not hazardous by definition in 29 CFR, Section 1501.2 which pertains to this Data Sheet					
SECTION III PHYSICAL DATA					
BOILING POINT (°F.)	212	SPECIFIC GRAVITY (H ₂ O=1)		1.08	
VAPOR PRESSURE (mm Hg.) @ 20°C.	17.5	PERCENT VOLATILE BY WEIGHT		54	
VAPOR DENSITY (AIR=1)	0.62	EVAPORATION RATE (Water=1)		1	
SOLUBILITY IN WATER		Dispersibility complete			
APPEARANCE AND ODOR White viscous liquid; slight acrid odor.					
SECTION IV FIRE AND EXPLOSION HAZARD DATA					
FLASH POINT (Method used)		N/A	FLAMMABLE LIMITS		Let Uet
EXTINGUISHING MEDIA		Water fog, CO ₂ or foam.			
SPECIAL FIRE FIGHTING PROCEDURES		None			
UNUSUAL FIRE AND EXPLOSION HAZARDS		N/A			

May 30, 1972

Gelva Latex E-900

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	None expected
EMERGENCY AND FIRST AID PROCEDURES	Use normal hygienic procedures, such as removal of soaked clothing and showers. Flush eyes with water to avoid local irritation.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)	None		
HAZARDOUS DECOMPOSITION PRODUCTS	CO ₂ , H ₂ O, CO		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Apply sawdust or sweeping compound to soak up. For large spills, use "bailing" methods into containers. Soak up balance. Shovel into containers.
WASTE DISPOSAL METHOD	Send to dry land fill. Flush to sewer or settling ponds if local regulations permit.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)	Not needed	
VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES	Rubberized gloves	EYE PROTECTION
OTHER PROTECTIVE EQUIPMENT	Rubber shoes or boots	Goggles

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	Avoid freezing. Do not store in closed drums or vessels near high temperature sources.
OTHER PRECAUTIONS	

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.



Fisher Scientific Company

Chemical Manufacturing Division

P.O. Box 375, Fair Lawn, NJ 07410

MATERIAL SAFETY DATA SHEET (Adapted from USDL Form LSD-005-4)

(201) 796-7100

SECTION I. IDENTIFICATION OF PRODUCT

CHEMICAL NAME

1,1,1-Trichloroethane

FORMULA

CH₃CCl₃

SYNONYM OR CROSS REFERENCE

**Methylchloroform
Chloroethene**

SECTION II. HAZARDOUS INGREDIENTS

MATERIAL

1,1,1-Trichloroethane

NATURE OF HAZARD

Irritant

SECTION III. PHYSICAL DATA

BOILING POINT

74°C

MELTING POINT

-38°C

VAPOR PRESSURE(mm Hg)

144

SPECIFIC GRAVITY **1.34**

OR DENSITY (AIR 1)

4.55

PERCENT VOLATILE BY VOLUME (%) **100%**

WATER SOLUBILITY

insoluble

EVAPORATION RATE

ether

1) greater than 1

APPEARANCE

Clear, water-white liquid

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (method used)

NA

FLAMMABLE LIMITS

Uel

Lel

(C.F.)

15

7.5

FIRE EXTINGUISHING MEDIA

NA

SPECIAL FIRE-FIGHTING PROCEDURES

Wear self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARD

When heated to decomposition, emits toxic fumes of chlorine.

SECTION V. HEALTH HAZARD

THRESHOLD LIMIT VALUE

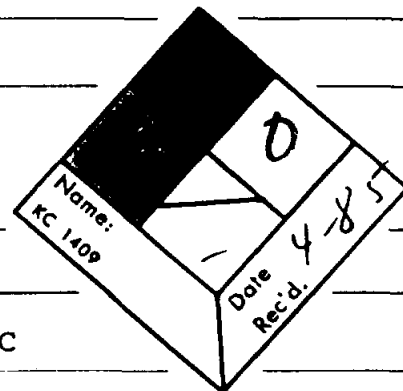
350 ppm

HEALTH HAZARDS

Irritating to eyes, mucous membranes and in high concentrations narcotic.

FIRST AID PROCEDURES **If inhaled, remove to fresh air. Administer oxygen or artificial respiration as necessary. Call a physician. In case of contact, flush eyes with plenty of water for at least 15 minutes. Call a physician.**

See Disclaimer on reverse side.



SECTION VI. REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

When heated to decomposition, emits toxic fumes of chlorine.

HAZARDOUS
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

SECTION VII. SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Absorb spill on vermiculite and place in a suitable container.

WASTE DISPOSAL METHOD

DISPOSE OF BY MEANS AS TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS
OR CONTACT AN APPROVED AND LICENSED DISPOSAL AGENCY

SECTION VIII. PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)

respirator with organic vapor canister

VENTILATION

LOCAL

Acceptable

SPECIAL

MECHANICAL (general)

Acceptable

OTHER

PROTECTIVE GLOVES

Rubber

EYE PROTECTION

Safety glasses

OTHER PROTECTIVE EQUIPMENT

SECTION IX. HANDLING AND STORAGE PRECAUTIONS

STORAGE AND HANDLING

SECTION X. MISCELLANEOUS INFORMATION

INFORMATION FURNISHED BY

Gaston L. Pillori

TITLE

Manager of Quality Assurance

The above information is believed to be accurate and represents the best information currently available to us. However, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

REV NO 1 DATE January 25, 1982

Form No. 157
11-79

EFFECTIVE DATE: 23 SEP 81
PRODUCT (CONT'D): CHLOROTHENE (R) SM SOLVENT

PRODUCT CODE: 16896
MSD: 1111

SECTION 6

FIRST AID--NOTE TO PHYSICIAN (CONTINUED)

NOTE TO PHYSICIAN: (CONTINUED)

OXYGEN IF AVAILABLE. BRONCHODILATORS, EXPECTORANTS, AND ANTITUSSIVES MAY BE OF HELP.

ORAL: LOW IN TOXICITY. MAY CAUSE REACTION SIMILAR TO PETROLEUM OR PETROLEUM-LIKE SOLVENT. DANGER OF CHEMICAL PNEUMONIA MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTING THE STOMACH. IF LAVAGE IS PERFORMED, SUGGEST ENDOTRACHEAL AND/OR ESOPHAGOSCOPIC CONTROL.

SYSTEMIC: MAY INCREASE MYOCARDIAL IRRITABILITY. AVOID EPINEPHRINE OR SIMILAR ACTING DRUGS IF AT ALL POSSIBLE. CONSULT STANDARD LITERATURE. NO SPECIFIC ANTIDOTE. TREATMENT BASED ON THE SOUND JUDGMENT OF THE PHYSICIAN AND THE INDIVIDUAL REACTIONS OF THE PATIENT.

SECTION 7

SPECIAL HANDLING INFORMATION

VENTILATION: RECOMMEND CONTROL OF VAPORS TO SUGGESTED GUIDE.

RESPIRATORY PROTECTION: NONE NORMALLY NEEDED. APPROVED RESPIRATORY PROTECTION REQUIRED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. FOR EMERGENCIES, A SELF-CONTAINED BREATHING APPARATUS OR A FULL-FACE RESPIRATOR IS RECOMMENDED. CARTRIDGE RESPIRATORS ARE NOT RECOMMENDED EXCEPT FOR EVACUATION.

PROTECTIVE CLOTHING: NO SPECIAL PROTECTIVE CLOTHING NEEDED.

EYE PROTECTION: SAFETY GLASSES WITHOUT SIDE SHIELDS.

SECTION 8

SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: HANDLE WITH REASONABLE CARE. AVOID BREATHING VAPORS. STORE IN A COOL DRY PLACE. VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS FITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE.

1,1,1-TRICHLOROETHANE PRODUCTS SHOULD NOT BE PACKAGED IN ALUMINUM AEROSOL CANS OR WITH FINELY DIVIDED ALUMINUM OR ITS ALLOYS IN AN AEROSOL CAN.

ALUMINUM IS NOT AN ACCEPTABLE MATERIAL OF CONSTRUCTION FOR PUMPS, MIXERS, FITTINGS, STORAGE TANKS FOR 1,1,1-TRICHLOROETHANE PRODUCTS OR FORMULATIONS.

(CONTINUED ON PAGE 4)

(R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

M A T E R I A L S A F E T Y D A T A S H E E T P A G E : 1
DOW CHEMICAL U.S.A. MIDLAND MICHIGAN 48640 EMERGENCY PHONE: 517-636-4400

EFFECTIVE DATE: 23 SEP 81

PRODUCT CODE: 16896

PRODUCT NAME: CHLOROTHENE (R) SM SOLVENT

MSD: 1111

INGREDIENTS (TYPICAL VALUES-NOT SPECIFICATIONS) : % :

1,1,1-TRICHLOROETHANE (MINIMUM) : 95.5 :

SECTION 1

PHYSICAL DATA

BOILING POINT: 165F (74C) : SOL. IN WATER: 0.07G/100G @ 25C
VAP PRESS: 100 MMHG @ 20C : SP. GRAVITY: 1.321 @ 25/25C
VAP DENSITY (AIR=1): 4.55 : % VOLATILE BY VOL: 100 (ESSEN.)

APPEARANCE AND ODOR: COLORLESS LIQUID.

SECTION 2

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: NONE : FLAMMABLE LIMITS
METHOD USED: T.O.C., T.C.C., C.O.C. : LFL: 8% @ 25C UFL: 10.5% @ 25C

EXTINGUISHING MEDIA: WATER FOG.

SPECIAL FIRE FIGHTING EQUIPMENT AND HAZARDS: SELF-CONTAINED
RESPIRATORY EQUIPMENT. NOT CONSIDERED A FLAMMABLE LIQUID HAZARD
UNDER AMBIENT TEMPERATURE USE CONDITIONS.

SECTION 3

REACTIVITY DATA

STABILITY: AVOID OPEN FLAMES, WELDING ARCS OR OTHER HIGH
TEMPERATURE SOURCES WHICH INDUCE THERMAL DECOMPOSITION.

INCOMPATIBILITY: WATER - SLOW HYDROLYSIS PRODUCES CORROSIVE ACID.

HAZARDOUS DECOMPOSITION PRODUCTS: HYDROGEN CHLORIDE AND VERY SMALL
AMOUNTS OF PHOSGENE AND CHLORINE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 4

SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS (USE APPROPRIATE SAFETY EQUIPMENT): SMALL LEAKS:

MOP UP, WIPE UP OR SOAK IMMEDIATELY. REMOVE TO OUT OF DOORS. LARGE
SPILLS: EVACUATE AREA. CONTAIN LIQUID; TRANSFER TO CLOSED METAL
CONTAINERS. KEEP OUT OF WATER SUPPLIES.

(CONTINUED ON PAGE 2)

(R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Section 6 HEALTH HAZARD DATA

QUESTION

Lethal dose (man): 5-30 ml/150 lb. man. (110-440 Mg/kg)

EYE CONTACT

Pain and irritation, but no, or only minor, corneal injury likely.

SKIN CONTACT

Prolonged or frequently repeated contact -- irritation may occur.
Short contact -- no irritation. If confined to skin -- pain and a burn.

SKIN ABSORPTION

Very low - not a hazard.

INHALATION (TLV OR SUGGESTED CONTROL FIGURE)

TLV - 100 ppm (1969)

EFFECTS OF OVEREXPOSURE

Anesthesia, chronic exposure to low levels (over 100 ppm) possible organic injury.

FIRST AID PROCEDURES

Inhalation -- If illness occurs, get patient to fresh air, keep him quiet and warm and get a physician.

Skin & Eyes -- Flush with plenty of water and get medical attention if irritation or injury develops.

Ingestion -- Induce vomiting only at physicians recommendation.

Section 7 SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Small spills -- Mop up, wipe up or soak up with absorbent material using proper protective equipment. Bury.

Large spills -- Evacuate area. Using proper protective equipment, flush spill to ground and let evaporate. Keep out of water supply and away from inhabited buildings

DISPOSAL METHOD

Bury away from water supply or allow solvent to evaporate to atmosphere at a safe distance from inhabited buildings.

Section 8 SPECIAL PROTECTION INFORMATION

VENTILATION

LOCAL EXHAUST

X

MECHANICAL (General)

X

SPECIAL

OTHER

RESPIRATORY PROTECTION (SPECIFY TYPE) Below 100 ppm -- none; 100 ppm to 2% -- suitable full face mask; above 2% -- suitable self contained system, organic canister.

PROTECTIVE CLOTHING

None other than clean clothing.

EYE PROTECTION

☐ NOT NORMALLY NECESSARY☒ SAFETY GLASSES WITHOUT SIDE SHIELDS☐ SAFETY GLASSES WITH SIDE SHIELDS☐ CHEMICAL WORKERS GOGGLES☐ GAS TIGHT GOGGLES OR EQUIVALENT☐ OTHER:

OTHER PROTECTIVE EQUIPMENT

None

Section 9 SPECIAL PRECAUTIONS OR OTHER COMMENTS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Handle with reasonable care. Avoid breathing vapors. Provide adequate

ventilation to control vapors to 100 ppm or less where daily exposure is likely.

OTHER PRECAUTIONS

TCS

SAFETY DATA SHEET



U.S. DEPARTMENT OF LABOR AS - "essentially similar" to form LSH-005-4)

HAZARDOUS PRODUCTS USED IN PLACES OF EMPLOYMENT

Section 1 NAME & PRODUCT	
MANUFACTURER'S NAME (a) DOW CHEMICAL COMPANY	EMERGENCY PHONE NO. 24 HOURS (b) 517 - 636 - 4400
ADDRESS (c) 2030 DOW CENTER	For latest data, consult manufacturer.
CITY, STATE, ZIP CODE (e) MIDLAND MICHIGAN 48640	SIGNATURE OF CERTIFYING COMPANY OFFICIAL (f) <i>[Signature]</i>
DATE THIS FORM WRITTEN (d) June 12, 1971	
CHEMICAL NAME, TRADE NAME, AND SYNONYMS (g) Trichloroethylene, Technical 1, 1, 2-trichloroethylene	
FORMULA OF PRIMARY COMPONENT(S) (STRUCTURAL)	

(h) $\text{CHCl}_2 = \text{CCl}_2$

Section 2 INGREDIENTS	%	TLV (units)
Trichloroethylene (minimum)	95	
(Not specification values)		

Section 3		PHYSICAL DATA	
BOILING POINT (°F.)	189° F (87°C)	SPECIFIC GRAVITY (H ₂ O = 1)	1.459
VAPOR PRESSURE (mm Hg at 20°C)	60	% VOLATILE BY VOLUME	100 (essentially)
VAPOR DENSITY (air=1)	4.53	COLOR AND ODOR	colorless - chloroform like
SOLUBILITY IN WATER	negligible	PHYSICAL STATE	Liquid

Section 4 FIRE AND EXPLOSION HAZARD DATA									
I. FLASH POINT (AND METHOD USED)					II. FLAMMABLE LIMITS (STP)				
None °F T.O.C., T.C.C., C.O.C.					L.F.L. 8.0		U.F.L. 10.5		
EXTINGUISHING MEDIA									
<input checked="" type="checkbox"/> WATER FOG		<input type="checkbox"/> FOAM		<input type="checkbox"/> ALCOHOL FOAM		<input type="checkbox"/> CO ₂		<input type="checkbox"/> DRY CHEMICAL	
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		OTHER <input type="checkbox"/>	

SPECIAL FIRE FIGHTING PROTECTIVE EQUIPMENT

Self contained respiratory protection.

14. ADDITIONAL EXPLOSION HAZARDS

None

Section 5 REACTIVITY DATA			
STABILITY	NORMAL CONDITIONS		18. CONDITIONS TO AVOID Open flames, welding arcs (can cause thermal decomposition producing HCl and COCl ₂)
	FIRE CONDITIONS		
INCOMPATIBILITY (Materials to avoid)	<input type="checkbox"/> WATER <input type="checkbox"/> ACID * <input checked="" type="checkbox"/> BASE <input type="checkbox"/> CORROSIVE <input type="checkbox"/> OXIDIZING MATERIAL		
	<input type="checkbox"/> OTHER: * Strong Bases: Caustic Soda; Potash.		
19. HAZARDOUS DECOMPOSITION PRODUCTS Exposure to high temperature and open flame generates hydrogen chloride and small amounts of phosgene and chlorine.			
HAZARDOUS POLYMERIZATION	MAY OCCUR		20. CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SEE PAGE 2 →

Nonhazardous Pine Chemicals Products List, 6/12/72

NONHAZARDOUS Pine Chemicals* Products

Abalyn	Dresinate 91	Foral 105
Abitol	Dresinate 92	Hercolyn D
Alc Oil	Dresinate 93	Lewisol 7
Anethole, Tech.	Dresinate 94	Lewisol 28
Aquapel 364	Dresinate 95	Limed Poly-pale
Aquapel 380	Dresinate 214	Limed Poly-pale, 5%
Aquapel 437	Dresinate 731	Limed Poly-pale, HM
Bresin 2	Dresinate 7X1	Melhi
Brisgo II	Dresinate DS-60W	Melhi N
Cellolyn 21	Dresinate TX-60W	Metalyn
Cellolyn 102	Dresinate TX-65W	Metalyn 100
Cellolyn 104	Dresinol 40	Metalyn 100D
Defoamer 187	Dresinol 42	Metalyn 400
Defoamer 340	Dresinol 155	Metalyn D
Defoamer 340F	Dresinol 205	Metalyn 1191
Defoamer 357	Dresinol 210B	Metalyn 1191D
Defoamer 403	Dresinol 215	Neolyn 20
Defoamer 491A	Dresinol 4095	Neolyn 35D
Defoamer 831	Dresinol 4096	Neolyn 40
Defoamer 918	Dymerex	Neolyn 72
Defoamer 918F	Ester Gum 5D	Neolyn 91
Defoamer 1007B	Ester Gum 8BG	Neolyn 223
Defoamer 1052	Ester Gum 8D	PAD Resin
Defoamer 1512	Ester Gum 8L	Paracol 403A6
Defoamer 1883	Ester Gum 10D	Paracol 403G6
Defoamer 2053	Ester Gum 12D	Paracol 403R6
Defoamer 2103	Evener 4B	Paracol 404A
Defoamer 2153	Foral AX	Paracol 404C
Delfloc 50	Foral D	Paracol 404G
Delfloc 763	Foral 30	Paracol 404N
Dresinate 81	Foral 40	Paraol 404R
Dresinate 90	Foral 85	Paracol 405G6

* Products produced and/or marketed by The Pine Chemicals Division of Hercules Pine & Paper Chemicals Department. If the Pine Chemicals product whose status you wish to establish does not appear among the above, check the "Hazardous" Pine Chemicals products list.

(more on page 2)

Nonhazardous Pine Chemicals Products List, 6/12/72

Page 2 (Continued)

NONHAZARDOUS Pine Chemicals* Products

Paracol 447K	Pexate 329	Surfactant AR100
Paracol 505G	Pexate 508E	Surfactant AR 150
Paracol 505N	Pexate 510E	Surfactant AR200
Paracol 560N	Pexate 511	Vegetol
<u>Pentaerythritol Tetrastearate</u>	Pexate 549	Vinsalyn 100
Pentalyn A	Pexoil	Vinsalyn 110
Pentalyn B25	Polycup 171	Vinsalyn 120
Pentalyn B56	Polycup 361	Vinsalyn 130
Pentalyn C	Polyol EOY	Vinsol
Pentalyn F	Poly-pale	Vinsol Emulsion
Pentalyn G	Poly-pale Ester 1	Vinsol Ester Gum
<u>Pentalyn H</u>	Poly-pale Ester 10	Vinsol Soap 5011, 50%
Pentalyn K	Polyrad 0515	Vinsol Soap 5015, 50%
Pentalyn X	Polyrad 1100	Vinsol Soap 3015, 30%
Pentalyn 255	Polyrad 1110	Wood Rosin, K
Pentalyn 261	Residue R	Wood Rosin, M
Pentalyn 269	Resin 731DX1	Wood Rosin, N
Pentalyn 272	Resin 861	Wood Rosin, WG
Pentalyn 342	Resin 917S, UF	
Pentalyn 344	Resin 1991	
Pentalyn 417	Resin 1999	
Pentalyn 450	Resin 2000	
Pentalyn 802A	Resin 2043	
Pentalyn 802A Pale	Resin NC-11	
Pentalyn 830	Rosin Residue	
Pentalyn 833	Staybelite	
Pentalyn 840	Staybelite F	
Pentalyn 856	Staybelite Ester 3	
Pentalyn 858	Staybelite Ester 5	
Pentalyn 860	<u>Staybelite Ester 10</u>	
Permalyn 330	Superior Foam Killer	
Petrex Acid	Sulfonated Castor Oil, 75%	

* Products produced and/or marketed by The Pine Chemicals Division of Hercules Pine & Paper Chemicals Department. If the Pine Chemicals product whose status you wish to establish does not appear among the above, check the "Hazardous" Pine Chemicals products list.

Exhibit 3C

Other Brown-Bridge Wastes

RETURN TO:	
KIMBERLY-CLARK CORPORATION	
STREET ADDRESS _____	
CITY - STATE - ZIP _____	
ATTN: _____	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	<u>R. Sternasty</u>
TELEPHONE NO.	<u>(513) 339-0561</u>

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	<u>Brown-Bridge Division Kimberly-Clark Corp.</u>	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS <u>517 East Water Street, Troy, Ohio 45373</u>		
TRADE NAME	<u>BBM Clayfilled Splicing Tape</u>	
SYNONYMS	<u>None</u>	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
<u>Cloth Tape containing clay and starch size</u>	<u>74%</u>	<u>Considered Non-Hazardous</u>
<u>Animal protein based adhesive</u>	<u>26%</u>	<u>Considered Non-Hazardous</u>
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	<u>N/A</u>	MELTING POINT <u>N/A</u>
SPECIFIC GRAVITY (H ₂ O=1)	<u>N/A</u>	VAPOR PRESSURE <u>N/A</u>
VAPOR DENSITY (AIR=1)	<u>N/A</u>	SOLUBILITY IN H ₂ O, % BY WT. <u>36%</u>
% VOLATILES BY VOL.	<u>N/A</u>	EVAPORATION RATE (BUTYL ACETATE=1) <u>N/A</u>
APPEARANCE AND ODOR	<u>Adhesive coated cloth tape</u>	

KC 1453-D

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	> 200°F	AUTOIGNITION TEMPERATURE	> 200°F
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER
EXTINGUISHING MEDIA	Class A, B, or C Fire Extinguisher		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARD	None		

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA				
None				
ROUTES OF EXPOSURE	N/A	AIR CONTAMINANT CONCENTRATIONS		
		N/A		
		DATE	LOCATION	TLV
INHALATION				TEST RESULTS
SKIN CONTACT				
SKIN ABSORPTION				
EYE CONTACT				
INGESTION				
EFFECTS OF OVEREXPOSURE				
ACUTE OVEREXPOSURE		N/A		
CHRONIC OVEREXPOSURE		N/A		
EMERGENCY AND FIRST AID PROCEDURES				
		N/A		
EYES				
SKIN:				
INHALATION:				
INGESTION:				

NOTES TO PHYSICIAN

Adhesive contains animal protein (collagen)

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTS

CO₂, CO, and possibly oxides of nitrogen.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

Any acceptable process for non-hazardous materials.

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

None

RESPIRATORY (SPECIFY IN DETAIL)

EYE None

GLOVES None

OTHER CLOTHING AND EQUIPMENT

None

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

None

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50°F and 80°F and preferably between 30 and 50% R.H.
Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio

DATE: 1/4/84

RETURN TO: KIMBERLY-CLARK CORPORATION	
STREET ADDRESS	
CITY - STATE - ZIP	
ATTN:	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	<u>R. Sternasty</u>
TELEPHONE NO.	<u>(513) 339-0561</u>

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division Kimberly-Clark Corp.	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	BBZ Clayfilled Splicing Tape	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
Cloth Tape containing clay and starch size	76%	Considered Non-Hazardous
Animal protein based adhesive	24%	Considered Non-Hazardous
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H₂O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H₂O. % BY WT. 34%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated cloth tape	

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	> 200°F	AUTOIGNITION TEMPERATURE	> 200°F
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER N/A
EXTINGUISHING MEDIA	Class A, B, or C Fire Extinguisher		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARD	None		

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA None				
ROUTES OF EXPOSURE N/A	AIR CONTAMINANT CONCENTRATIONS N/A			
	DATE	LOCATION	TLV	TEST RESULTS
INHALATION				--
SKIN CONTACT				
SKIN ABSORPTION				
EYE CONTACT				
INGESTION				
EFFECTS OF OVEREXPOSURE				
ACUTE OVEREXPOSURE	N/A			
CHRONIC OVEREXPOSURE	N/A			
EMERGENCY AND FIRST AID PROCEDURES N/A				
EYES				
SKIN:				
INHALATION:				
INGESTION:				

NOTES TO PHYSICIAN

Adhesive contains animal protein (collagen).

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTS

CO₂, CO, and possibly oxides of Nitrogen.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

Any acceptable process for non-hazardous materials.

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None

RESPIRATORY (SPECIFY IN DETAIL)

EYE None

GLOVES None

OTHER CLOTHING AND EQUIPMENT
None

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

None

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50°F and 80°F and preferably between 30 and 50% R.H.
Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio

DATE: 1/4/84

RETURN TO:
KIMBERLY-CLARK CORPORATION
Brown - Bridge Mills, Inc
 STREET ADDRESS 517 East Water St
 CITY - Tracy, Calif 95372
 STATE - ZIP
 ATTN: R. J. Thomas

FOR INFORMATION CONCERNING THIS
 DATA SHEET PLEASE CONTACT
 NAME R. J. Thomas
 TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown Bridge Division REGULAR TELEPHONE NO. (513) 339-0561
Kimberly-Clark Corp. Inc EMERGENCY TELEPHONE NO. (513) 339-0694
 ADDRESS 517 East Water St, Tracy, Calif 95372
 A TRADE NAME (BBM) Clay-Coated Paper Tape 1, 2, 3
 SYNONYMS

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
None		
Cloth Tape containing clay and starch size	A	Considered Non-Hazardous
Animal protein based adhesive	B	Considered Non-Hazardous

III PHYSICAL DATA

BOILING POINT, 760 MM HG	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	34%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1)	
APPEARANCE AND ODOR	Adhesive coated cloth Tape -		

N/A - Not Applicable

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	> 200°F	AUTOIGNITION TEMPERATURE	> 200°F
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER
EXTINGUISHING MEDIA	Class A, B, or C fire extinguishers		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARD	None		

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA					None				
ROUTES OF EXPOSURE			AIR CONTAMINANT CONCENTRATIONS			N/A			
INHALATION			DATE	LOCATION	TLV	TEST RESULTS			
SKIN CONTACT									
SKIN ABSORPTION									
EYE CONTACT									
INGESTION									
EFFECTS OF OVEREXPOSURE									
ACUTE OVEREXPOSURE									
N/A									
CHRONIC OVEREXPOSURE									
N/A									
EMERGENCY AND FIRST AID PROCEDURES									
EYES									
N/A									
SKIN:									
INHALATION:									
INGESTION:									

NOTES TO PHYSICIAN

~~Adhesive contains animal protein~~
 Adhesive contains animal protein (collagen)

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTS

~~None~~ CO_2 , CO, and possibly oxides
of nitrogen.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

N/A

NEUTRALIZING CHEMICALS

N/A

WASTE DISPOSAL METHOD

Eng. acceptable method process for
large quantities

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

None

RESPIRATORY (SPECIFY IN DETAIL)

EYE

None

GLOVES

None

OTHER CLOTHING AND EQUIPMENT

None

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	> 200°F	AUTOIGNITION TEMPERATURE	> 200°F
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER
EXTINGUISHING MEDIA	Class A, B, or C Fire Extinguisher		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARD	None		

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA					None
ROUTES OF EXPOSURE		AIR CONTAMINANT CONCENTRATIONS			N/A
		DATE	LOCATION	TLV	TEST RESULTS
INHALATION					
SKIN CONTACT					
SKIN ABSORPTION					
EYE CONTACT					
INGESTION					
EFFECTS OF OVEREXPOSURE					
ACUTE OVEREXPOSURE		N/A			
CHRONIC OVEREXPOSURE		N/A			
EMERGENCY AND FIRST AID PROCEDURES					
EYES		N/A			
SKIN:					
INHALATION:					
INGESTION:					

NOTES TO PHYSICIAN

~~Adhesive contains animal protein~~
 Adhesive contains animal protein (collagen)

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge, Paper Sector, Kimberly-Clark Corp.		REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0561	
ADDRESS 518 E. Water St., Troy, Ohio 45373			
CHEMICAL NAME AND SYNONYMS N/A		CAS NO. N/A	UN NO. None
TRADE NAME AND SYNONYMS BBL Clayfilled Splicing Tape			
CHEMICAL FAMILY N/A		FORMULA N/A	
SHIPPING NAME: DOT: Sealing Tape, Cloth or Cloth and Paper Combined, Gummed in Pkgs.		IATA: Class 85	

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	CAS NO. UN NO.	%	HAZARD DATA
Cloth Tape Containing			
Clay and Starch Size	N/A	67%	Considered Non-Hazardous
Animal Protein			
based Adhesive	N/A	33%	Considered Non-Hazardous

III PHYSICAL DATA

BOILING POINT, 760 mm Hg N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1) N/A	VAPOR PRESSURE (mm Hg at °C) N/A
VAPOR DENSITY (AIR=1) N/A	SOLUBILITY IN H ₂ O, % BY WT. 41%
% VOLATILES BY VOL. N/A	EVAPORATION RATE (= 1) N/A
APPEARANCE AND ODOR Adhesive Coated Cloth Tape	pH (AS IS) pH AT DILUTION N/A

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD) > 200°F	AUTO IGNITION TEMPERATURE > 200°F	FLAMMABLE LIMITS IN AIR, % BY VOL.: LOWER: UPPER:	N/A
EXTINGUISHING MEDIA Class A, B, or C Fire Extinguisher			
SPECIAL FIRE FIGHTING PROCEDURES None			
UNUSUAL FIRE AND EXPLOSION HAZARD None			

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	HAZARD CLASSIFICATION	BASIS FOR CLASSIFICATION	SOURCE
<u>ROUTES OF EXPOSURE</u>			
INHALATION	None		
SKIN CONTACT	None		
SKIN ABSORPTION	None		
EYE CONTACT	None		
INGESTION	None		
<u>EFFECTS OF OVEREXPOSURE</u>			
ACUTE OVEREXPOSURE	N/A		
CHRONIC OVEREXPOSURE	N/A		
<u>EMERGENCY AND FIRST AID PROCEDURES</u>			
EYES	N/A		
SKIN	N/A		
INHALATION	N/A		
INGESTION	N/A		
NOTES TO PHYSICIAN	Adhesive contains animal protein (collagen)		

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY (MATERIALS TO AVOID)

None

HAZARDOUS DECOMPOSITION PRODUCTS

When burned, CO₂, CO, and possibly oxides of nitrogen.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

N/A

NEUTRALIZING CHEMICALS

N/A

WASTE DISPOSAL METHOD OF SPILL OR LEAK

N/A

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

None

EYE

None

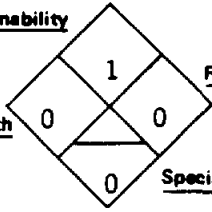
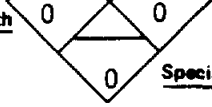
GLOVES

None

OTHER CLOTHING AND EQUIPMENT

None

IX SPECIAL PRECAUTIONS

LABELING INFORMATION AND WARNINGS	DATA FOR HAZARDS INFORMATION LABEL <div style="display: flex; align-items: center;"> <div style="flex: 1;"> Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant </div> <div style="flex: 1; text-align: center;"> Flammability  </div> <div style="flex: 1;"> Reactivity </div> </div> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="flex: 1;"> Health </div> <div style="flex: 1; text-align: center;">  </div> <div style="flex: 1;"> Special </div> </div>
OTHER HANDLING AND STORAGE REQUIREMENTS Store between 50°F and 80°F and preferably between 30 and 50% R.H. Rotate stock.	

X DISPOSAL

WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials.
AQUATIC TOXICITY (eg. 96 hr TLM): No known toxicity

XI GOVERNMENT REGULATIONS

REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS	REGULATION HIGHLIGHTS
FEDERAL DOT Hazard Class	None
STATE	N/A
OTHER	N/A

PREPARED BY: R. S. Sternasty COMPANY: Brown-Bridge, K-C Corp.
ADDRESS: 518 E. Water St., Troy, OH 45373 TEL. NO.: (513) 339.0561
DATE PREPARED: 7/25/85 LATEST REVISION DATE: 7/25/85

RETURN TO:
KIMBERLY-CLARK CORPORATION

STREET
ADDRESS _____

CITY -
STATE - ZIP _____

ATTN: _____

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACT

NAME R. Sternasty

TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge Division
Kimberly-Clark Corp.

REGULAR TELEPHONE NO. (513) 339-0561
EMERGENCY TELEPHONE NO. (513) 339-0694

ADDRESS 517 East Water Street, Troy, Ohio 45373

TRADE NAME BBL Clayfilled Splicing Tape

SYNONYMS None

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
<u>Cloth Tape containing clay and starch size</u>	<u>67%</u>	<u>Considered Non-</u> <u>Hazardous</u>
<u>Animal protein based adhesive</u>	<u>33%</u>	<u>Considered Non-</u> <u>Hazardous</u>

III PHYSICAL DATA

BOILING POINT, 760 MM HG	<u>N/A</u>	MELTING POINT	<u>N/A</u>
SPECIFIC GRAVITY (H ₂ O=1)	<u>N/A</u>	VAPOR PRESSURE	<u>N/A</u>
VAPOR DENSITY (AIR=1)	<u>N/A</u>	SOLUBILITY IN H ₂ O, % BY WT.	<u>41%</u>
% VOLATILES BY VOL.	<u>N/A</u>	EVAPORATION RATE (BUTYL ACETATE=1)	<u>N/A</u>
APPEARANCE AND ODOR	<u>Adhesive coated cloth tape</u>		

IV FIRE AND EXPLOSION DATA

> 200°F	AUTOIGNITION TEMPERATURE	> 200°F
IN AIR, % BY VOL.	LOWER	N/A
	UPPER	N/A
Class A, B, or C Fire Extinguisher		
None		
None		

V HEALTH HAZARD INFORMATION

DATA None				
SURE N/A	AIR CONTAMINANT CONCENTRATIONS N/A			
	DATE	LOCATION	TLV	TEST RESULTS
ON				
FACT				
ORPTION				
FACT				
ON				
VEREXPOSURE				
OVEREXPOSURE N/A				
C OVEREXPOSURE N/A				
AND FIRST AID PROCEDURES				
N/A				
ATION:				
TION:				
HYSICIAN				
sive contains animal protein (collagen).				

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

None

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50°F and 80°F and preferably between 30 and 50% R.H.
Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water St., Troy, Ohio

DATE: 1/4/84

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge, Paper Sector, Kimberly-Clark Corp.		REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0561	
ADDRESS 518 E. Water St., Troy, Ohio 45373			
CHEMICAL NAME AND SYNONYMS N/A		CAS NO. N/A UN NO. None	
TRADE NAME AND SYNONYMS BBM Clayfilled Splicing Tape			
CHEMICAL FAMILY N/A		FORMULA N/A	
SHIPPING NAME: DOT: Sealing Tape, Cloth or Cloth and Paper Combined, Gummed in Pkgs. Class 85 IATA:			

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	CAS NO. UN NO.	%	HAZARD DATA
Cloth Tape Containing			
Clay and Starch Size	N/A	74%	Considered Non-Hazardous
Animal Protein			
based Adhesive	N/A	26%	Considered Non-Hazardous

III PHYSICAL DATA

BOILING POINT, 760 mm Hg N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H₂O=1) N/A	VAPOR PRESSURE (mm Hg at °C) N/A
VAPOR DENSITY (AIR=1) N/A	SOLUBILITY IN H₂O, % BY WT. 36%
% VOLATILES BY VOL. N/A	EVAPORATION RATE (= 1) N/A
APPEARANCE AND ODOR Adhesive Coated Cloth Tape	pH (AS IS) pH AT DILUTION N/A

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD) >200°F	AUTO IGNITION TEMPERATURE >200°F	FLAMMABLE LIMITS IN AIR, % BY VOL.:	LOWER: UPPER: N/A
EXTINGUISHING MEDIA Class A, B, or C Fire Extinguisher			
SPECIAL FIRE FIGHTING PROCEDURES None			
UNUSUAL FIRE AND EXPLOSION HAZARD None			

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	HAZARD CLASSIFICATION	BASIS FOR CLASSIFICATION	SOURCE
<u>ROUTES OF EXPOSURE</u> INHALATION	None		
SKIN CONTACT	None		
SKIN ABSORPTION	None		
EYE CONTACT	None		
INGESTION	None		
<u>EFFECTS OF OVEREXPOSURE</u> ACUTE OVEREXPOSURE N/A CHRONIC OVEREXPOSURE N/A			
<u>EMERGENCY AND FIRST AID PROCEDURES</u> EYES N/A SKIN N/A INHALATION N/A INGESTION N/A			
NOTES TO PHYSICIAN Adhesive contains animal protein (collagen)			

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY (MATERIALS TO AVOID)

None

HAZARDOUS DECOMPOSITION PRODUCTS

When burned, CO₂, CO and possibly oxides of nitrogen

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

N/A

NEUTRALIZING CHEMICALS

N/A

WASTE DISPOSAL METHOD OF SPILL OR LEAK

N/A

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

None

EYE

None

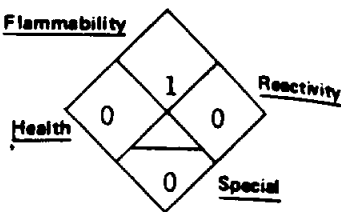
GLOVES

None

OTHER CLOTHING AND EQUIPMENT

None

IX SPECIAL PRECAUTIONS

LABELING INFORMATION AND WARNINGS	DATA FOR HAZARDS INFORMATION LABEL <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant </div> <div style="width: 50%; text-align: center;">  </div> </div>
OTHER HANDLING AND STORAGE REQUIREMENTS Store between 50°F and 80°F and preferably between 30 and 50% R.H. Rotate stock.	

X DISPOSAL

WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials.
AQUATIC TOXICITY (eg. 96 hr TLM): No known toxicity

XI GOVERNMENT REGULATIONS

REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS	REGULATION HIGHLIGHTS
FEDERAL DOT Hazard Class	None
STATE	N/A
OTHER	N/A

PREPARED BY: R. S. Sternasty **COMPANY:** Brown-Bridge, K-C Corp.
ADDRESS: 518 E. Water Street, Troy, Ohio 45373 **TEL. NO.:** (513) 339.0561
DATE PREPARED: 7/25/85 **LATEST REVISION DATE:** 7/25/85

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge, Paper Sector, Kimberly-Clark Corp.		REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0561	
ADDRESS 517 East Water St., Troy, Ohio 45373			
CHEMICAL NAME AND SYNONYMS N/A		CAS NO. N/A UN NO. None	
TRADE NAME AND SYNONYMS BBL Clayfilled Splicing Tape			
CHEMICAL FAMILY N/A		FORMULA N/A	
SHIPPING NAME: DOT: Sealing Tape, Cloth or Cloth and Paper Combined, Gummed in Pkgs. Class 85 HAZARD:			

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	CAS NO. UN NO.	%	HAZARD DATA
Cloth Tape Containing			
Clay and Starch Size	N/A	67%	Considered Non-Hazardous
Animal Protein			
based Adhesive	N/A	33%	Considered Non-Hazardous

III PHYSICAL DATA

BOILING POINT, 760 mm Hg N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1) N/A	VAPOR PRESSURE (mm Hg at °C) N/A
VAPOR DENSITY (AIR=1) N/A	SOLUBILITY IN H ₂ O, % BY WT. 41%
% VOLATILES BY VOL. N/A	EVAPORATION RATE (= 1) N/A
APPEARANCE AND ODOR Adhesive Coated Cloth Tape	pH (AS IS) AT DILUTION N/A

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD) 200°F	AUTO IGNITION TEMPERATURE 200°F	FLAMMABLE LIMITS IN AIR, % BY VOL.:	LOWER: N/A UPPER:
EXTINGUISHING MEDIA Class A, B, or C Fire Extinguisher			
SPECIAL FIRE FIGHTING PROCEDURES None			
UNUSUAL FIRE AND EXPLOSION HAZARD None			

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	HAZARD CLASSIFICATION	BASIS FOR CLASSIFICATION	SOURCE
<u>ROUTES OF EXPOSURE</u> INHALATION	None		
SKIN CONTACT	None		
SKIN ABSORPTION	None		
EYE CONTACT	None		
INGESTION	None		
<u>EFFECTS OF OVEREXPOSURE</u> ACUTE OVEREXPOSURE	N/A		
CHRONIC OVEREXPOSURE	N/A		
<u>EMERGENCY AND FIRST AID PROCEDURES</u> EYES	N/A		
SKIN	N/A		
INHALATION	N/A		
INGESTION	N/A		
NOTES TO PHYSICIAN	Adhesive contains animal protein (collagen).		

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY None
INCOMPATIBILITY (MATERIALS TO AVOID) None
HAZARDOUS DECOMPOSITION PRODUCTS When burned, CO ₂ , CO, and possibly oxides of nitrogen.
CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None

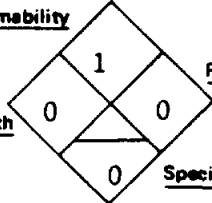
VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A
NEUTRALIZING CHEMICALS N/A
WASTE DISPOSAL METHOD OF SPILL OR LEAK N/A

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS None
<u>SPECIFIC PERSONAL PROTECTIVE EQUIPMENT</u>
RESPIRATORY (SPECIFY IN DETAIL) None
EYE None
GLOVES None
OTHER CLOTHING AND EQUIPMENT None

IX SPECIAL PRECAUTIONS

LABELING INFORMATION AND WARNINGS	DATA FOR HAZARDS INFORMATION LABEL <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant </div> <div style="flex: 1; text-align: center;"> Flammability  </div> <div style="flex: 1; text-align: right;"> Reactivity Health Special </div> </div>
OTHER HANDLING AND STORAGE REQUIREMENTS Store between 50°F and 80°F and preferably between 30 and 50% R.H. Rotate Stock.	

X DISPOSAL

WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials.
AQUATIC TOXICITY (eg. 96 hr TLM): No known toxicity

XI GOVERNMENT REGULATIONS

REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS	REGULATION HIGHLIGHTS
FEDERAL Dot Hazard Class	None
STATE	N/A
OTHER	N/A

PREPARED BY: R. S. Sternasty **COMPANY:** Brown-Bridge, K-C Corp.
ADDRESS: 517 E. Water St., Troy, OH 45373 **TEL. NO.:** (513) 339.0561
DATE PREPARED: 7/17/85 **LATEST REVISION DATE:** 7/17/85

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge, Paper Sector, Kimberly-Clark Corp.		REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0561	
ADDRESS 518 East Water St., Troy, Ohio 45373			
CHEMICAL NAME AND SYNONYMS N/A		CAS NO. N/A UN NO. None	
TRADE NAME AND SYNONYMS BBZ Clayfilled Splicing Tape			
CHEMICAL FAMILY N/A		FORMULA N/A	
SHIPPING NAME: DOT: Sealing Tape, Cloth or Cloth and Paper Combined, Gummed in Pkgs. IATA: Class 85			

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	CAS NO. UN NO.	%	HAZARD DATA
Cloth Tape Containing			
Clay and Starch Size	N/A	76%	Considered Non-Hazardous
Animal Protein			
based Adhesive	N/A	24%	Considered Non-Hazardous

III PHYSICAL DATA

BOILING POINT, 760 mm Hg N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1) N/A	VAPOR PRESSURE (mm Hg at °C) N/A
VAPOR DENSITY (AIR=1) N/A	SOLUBILITY IN H ₂ O, % BY WT. 34%
% VOLATILES BY VOL. N/A	EVAPORATION RATE (- 1) N/A
APPEARANCE AND ODOR Adhesive Coated Cloth Tape	pH (AS IS) pH AT DILUTION N/A

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD) >200°F	AUTO IGNITION TEMPERATURE >200°F	FLAMMABLE LIMITS IN AIR, % BY VOL.:	LOWER: UPPER: N/A
EXTINGUISHING MEDIA Class A, B, or C Fire Extinguisher			
SPECIAL FIRE FIGHTING PROCEDURES None			
UNUSUAL FIRE AND EXPLOSION HAZARD None			

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	HAZARD CLASSIFICATION	BASIS FOR CLASSIFICATION	SOURCE
<u>ROUTES OF EXPOSURE</u>			
INHALATION	None		
SKIN CONTACT	None		
SKIN ABSORPTION	None		
EYE CONTACT	None		
INGESTION	None		
<u>EFFECTS OF OVEREXPOSURE</u>			
ACUTE OVEREXPOSURE	N/A		
CHRONIC OVEREXPOSURE	N/A		
<u>EMERGENCY AND FIRST AID PROCEDURES</u>			
EYES	N/A		
SKIN	N/A		
INHALATION	N/A		
INGESTION	N/A		
NOTES TO PHYSICIAN			
Adhesive contains animal protein (collagen).			

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY (MATERIALS TO AVOID)

None

HAZARDOUS DECOMPOSITION PRODUCTS

When burned, CO₂, CO, and possibly oxides of nitrogen.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

N/A

NEUTRALIZING CHEMICALS

N/A

WASTE DISPOSAL METHOD OF SPILL OR LEAK

N/A

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

None

EYE

None

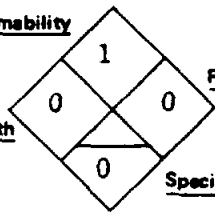
GLOVES

None

OTHER CLOTHING AND EQUIPMENT

None

IX SPECIAL PRECAUTIONS

LABELING INFORMATION AND WARNINGS	DATA FOR HAZARDS INFORMATION LABEL <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant </div> <div style="flex: 1; text-align: center;"> Flammability  </div> <div style="flex: 1; margin-left: 10px;"> Reactivity Health Special </div> </div>
OTHER HANDLING AND STORAGE REQUIREMENTS Store between 50°F and 80°F and preferably between 30 and 50% R.H. Rotate stock.	

X DISPOSAL

WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials.
AQUATIC TOXICITY (eg. 96 hr TLM): No known toxicity

XI GOVERNMENT REGULATIONS

REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS	REGULATION HIGHLIGHTS
FEDERAL DOT Hazard Class	None
STATE	N/A
OTHER	N/A

PREPARED BY: R. S. Sternasty **COMPANY:** Brown-Bridge, K-C Corp.
ADDRESS: 518 E. Water St., Troy, OH 45373 **TEL. NO.:** (513) 339-0561
DATE PREPARED: 7/25/85 **LATEST REVISION DATE:** 7/25/85

RETURN TO: KIMBERLY-CLARK CORPORATION	
STREET ADDRESS	
CITY - STATE - ZIP	
ATTN:	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	<u>R. Sternasty</u>
TELEPHONE NO.	<u>(513) 339-0561</u>

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	<u>Brown-Bridge Division Kimberly-Clark Corp.</u>	REGULAR TELEPHONE NO. <u>(513) 339-0561</u> EMERGENCY TELEPHONE NO. <u>(513) 339-0694</u>
ADDRESS	<u>517 East Water Street, Troy, Ohio 45373</u>	
TRADE NAME	<u>BBZ Clayfilled Splicing Tape</u>	
SYNONYMS	<u>None</u>	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
<u>Cloth Tape containing clay and starch size</u>	<u>76%</u>	<u>Considered Non-Hazardous</u>
<u>Animal protein based adhesive</u>	<u>24%</u>	<u>Considered Non-Hazardous</u>
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	<u>N/A</u>	MELTING POINT <u>N/A</u>
SPECIFIC GRAVITY (H₂O=1)	<u>N/A</u>	VAPOR PRESSURE <u>N/A</u>
VAPOR DENSITY (AIR=1)	<u>N/A</u>	SOLUBILITY IN H₂O, % BY WT. <u>34%</u>
% VOLATILES BY VOL.	<u>N/A</u>	EVAPORATION RATE (BUTYL ACETATE=1) <u>N/A</u>
APPEARANCE AND ODOR	<u>Adhesive coated cloth tape</u>	

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	> 200°F	AUTOIGNITION TEMPERATURE	> 200°F
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER N/A
EXTINGUISHING MEDIA	Class A, B, or C Fire Extinguisher		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARD	None		

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA None					
ROUTES OF EXPOSURE N/A <hr/> INHALATION <hr/> SKIN CONTACT <hr/> SKIN ABSORPTION <hr/> EYE CONTACT <hr/> INGESTION		AIR CONTAMINANT CONCENTRATIONS N/A			
		DATE	LOCATION	TLV	TEST RESULTS
EFFECTS OF OVEREXPOSURE					
ACUTE OVEREXPOSURE		N/A			
CHRONIC OVEREXPOSURE		N/A			
EMERGENCY AND FIRST AID PROCEDURES N/A					
EYES					
SKIN:					
INHALATION:					
INGESTION:					
NOTES TO PHYSICIAN					
Adhesive contains animal protein (collagen).					

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTS

CO₂, CO, and possibly oxides of Nitrogen.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

Any acceptable process for non-hazardous materials.

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None

RESPIRATORY (SPECIFY IN DETAIL)

EYE None

GLOVES None

OTHER CLOTHING AND EQUIPMENT
None

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

None

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50°F and 80°F and preferably between 30 and 50% R.H.
Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio

DATE: 1/4/84

RETURN TO:
~~KIMBERLY-CLARK CORPORATION~~
 STREET _____
 ADDRESS _____
 CITY _____
 STATE ZIP _____
 ATTN: _____

FOR INFORMATION CONCERNING THIS
 DATA SHEET PLEASE CONTACT
 NAME R. S. Sternasty
 TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	60# Bleached Kraft, Strong	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 21%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	> 200°F	AUTOIGNITION TEMPERATURE	> 200°F
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER N/A
EXTINGUISHING MEDIA	Class A, B, or C Fire Extinguisher		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARD	None		

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA None				
ROUTES OF EXPOSURE N/A <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">INHALATION</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">SKIN CONTACT</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">SKIN ABSORPTION</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">EYE CONTACT</div> <div style="border: 1px solid black; padding: 2px;">INGESTION</div>	AIR CONTAMINANT CONCENTRATIONS N/A			
	DATE	LOCATION	TLV	TEST RESULTS
EFFECTS OF OVEREXPOSURE				
ACUTE OVEREXPOSURE		N/A		
CHRONIC OVEREXPOSURE		N/A		
EMERGENCY AND FIRST AID PROCEDURES				
EYES		N/A		
SKIN:				
INHALATION:				
INGESTION:				
NOTES TO PHYSICIAN				

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTS

None

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

Any acceptable process for non-hazardous materials.

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

None
RESPIRATORY (SPECIFY IN DETAIL)

EYE

None

GLOVES

None

OTHER CLOTHING AND EQUIPMENT

None

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

None

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio 45373

DATE: 11/15/82

RETURN TO:
~~XX KIMBERLY-CLARK CORPORATION~~
 STREET ADDRESS _____
 CITY _____
 STATE - ZIP _____
 ATTN: _____

FOR INFORMATION CONCERNING THIS
 DATA SHEET PLEASE CONTACT
 NAME R. S. Sternasty
 TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	35# Bleached Kraft, Strong	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 32%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO:
~~INTERSTATE LINK CORPORATION~~

 STREET
ADDRESS _____

 CITY _____
STATE ZIP _____

ATTN: _____

 FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACT

 NAME R. Sternasty

 TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

 MANUFACTURER'S NAME **Brown-Bridge Division**

 REGULAR TELEPHONE NO. **(513) 339-0561**
EMERGENCY TELEPHONE NO. **(513) 339-0694**

 ADDRESS **517 East Water Street, Troy, Ohio 45373**
TRADE NAME **50# Super Pancake**
SYNONYMS **None**

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
None		

III PHYSICAL DATA

BOILING POINT, 760 MM HG	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	17%
% VOLATILES BY VOL	N/A	EVAPORATION RATE (BUTYL ACETATE=1)	N/A
APPEARANCE AND ODOR	Adhesive coated paper		

RETURN TO:
~~KIMBERLY CLARK CORPORATION~~
 STREET ADDRESS _____
 CITY _____
 STATE - ZIP _____
 ATTN _____

FOR INFORMATION CONCERNING THIS
 DATA SHEET PLEASE CONTACT
 NAME R. Sternasty
 TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	50# English Finish Pancake	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 17%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO:~~KIMBERLY CLARK CORPORATION~~STREET
ADDRESS _____CITY -
STATE - ZIP _____

ATTN: _____

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACTNAME R. S. SternastyTELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge DivisionREGULAR TELEPHONE NO. (513) 339-0561
EMERGENCY TELEPHONE NO. (513) 339-0694ADDRESS 517 East Water Street, Troy, Ohio 45373TRADE NAME 17# Quickett B/F PancakeSYNONYMS None

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
None		

III PHYSICAL DATA

BOILING POINT, 760 MM HG	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	19%
% VOLATILES BY VOL	N/A	EVAPORATION RATE (BUTYL ACETATE=1)	N/A
APPEARANCE AND ODOR	Adhesive coated paper		

RETURN TO:**~~KIMBERLY-CLARK CORPORATION~~**STREET
ADDRESS _____CITY -
STATE - ZIP _____

ATTN: _____

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACTNAME R. S. SternastyTELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge DivisionREGULAR TELEPHONE NO. (513) 339-0561
EMERGENCY TELEPHONE NO. (513) 339-0694ADDRESS 517 East Water Street, Troy, Ohio 45373TRADE NAME Climatized Sheet Stock with Removable Pressure Sensitive AdhesiveSYNONYMS None

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
None		

III PHYSICAL DATA

BOILING POINT, 760 MM HG	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	< 1%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1)	N/A
APPEARANCE AND ODOR	Adhesive coated paper with liner, slight acrylic odor.		

RETURN TO:
~~KIMBERLY CLARK CORPORATION~~
 STREET ADDRESS _____
 CITY - STATE - ZIP _____
 ATTN: _____

FOR INFORMATION CONCERNING THIS
 DATA SHEET PLEASE CONTACT
 NAME R. Sternasty
 TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	60# C1S Litho Pancake	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 14%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO:	
KIMBERLY CLARK CORPORATION	
STREET ADDRESS	
CITY - STATE - ZIP	
ATTN:	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	R. S. Sternasty
TELEPHONE NO.	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	60# Kromekote Pancake	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 14%
% VOLATILES BY VOL	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper.	

RETURN TO:	
KIMBERLY-CLARK CORPORATION	
STREET ADDRESS	
CITY	
STATE - ZIP	
ATTN:	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	R. Sternasty
TELEPHONE NO.	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	50# Blue Medium Pancake	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 17%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO:	
KIMBERLY-CLARK CORPORATION	
STREET ADDRESS	_____
CITY - STATE - ZIP	_____
ATTN:	_____

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	<u>R. Sternasty</u>
TELEPHONE NO.	<u>(513) 339-0561</u>

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	Grey Holland, Strong Gummed	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 21%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated cloth.	

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

Contains Animal Protein

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio 45373

DATE: 11/15/82

RETURN TO:~~KIMBERLY-CLARK CORPORATION~~STREET
ADDRESS _____CITY -
STATE - ZIP _____

ATTN: _____

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACTNAME R. S. SternastyTELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge DivisionREGULAR TELEPHONE NO. (513) 339-0561
EMERGENCY TELEPHONE NO. (513) 339-0694ADDRESS 517 East Water Street, Troy, Ohio 45373TRADE NAME White Cambric, Strong GummedSYNONYMS None

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
None		

III PHYSICAL DATA

BOILING POINT, 760 MM HG	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	24%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1)	N/A
APPEARANCE AND ODOR	Adhesive coated cloth		

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

Contains Animal Protein

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio 45373

DATE: 11/15/82

material safety data sheet

section 1 name & product

manufacturer's name

(a) Brown-Bridge, A Kimberly-Clark Company

emergency phone no. (24 hours)

(b) N/A

street address

(c) 518 E. Water Street

for latest data, con-
suit manufacturer

date this form written

(d) October 13, 1981

city, state, zip code

(e) Troy, Ohio 45373

signature of certifying company official

(f) *Richard S. Stern*

chemical name, trade name, and synonyms

(g) Clayfilled cloth splicing tape, grades BBL, BBM, BBZ

formula of primary component(s)

Starch sized cotton cloth,

(h) Animal protein remoistenable adhesive

section 2 ingredients

% TLV
(units)

Cotton Cloth

*
65-
76
24-
35

Adhesive

*Depending on grade

(not specification values)

section 3 physical data

2 boiling point (°F.)	N/A	6 specific gravity	N/A
3 vapor pressure (mmHg at 20°C)	N/A	7 % volatile by volume	N/A
4 vapor density (air = 1)	N/A	8 color and odor	Tan to Brown
5 solubility in water	30-50%	9 physical state	Cloth Tape

section 4 fire and explosion hazard data

10 flash point (and method used)

> 200°F

11 flammable limits (STP)

L.F.L. N/A

U.F.L. N/A

12 extinguishing
media:



water
fog



foam



alcohol
foam



CO₂



dry
chemical



other

13 special fire fighting protective equipment

None required

14 unusual fire and explosion hazards

None

section 5 reactivity data

15 stability	normal conditions	X	16 conditions to avoid
	fire conditions		Generally considered unreactive
			Flammable

17 incompat-
ibility
(materials to
avoid)



water



acid



base



corrosive



oxidizing
material



other

Above reactants would cause degradation.

18 hazardous decomposition products

None known.

19 hazardous polymeriza- tion	may occur		20 conditions to avoid
	will not occur	X	

N/A Not Applicable

material safety data sheet

section 1 name & product

manufacturer's name

(a) Brown-Bridge, A Kimberly-Clark Company

emergency phone no. (24 hours)

(b) N/A

street address

(c) 518 E. Water Street

for latest data, con-
sult manufacturer

date this form written

(d) October 13, 1981

city, state, zip code

(e) Troy, Ohio 45373

signature of certifying company official

(f) *Richard S. Stern*

chemical name, trade name, and synonyms

(g) Clayfilled cloth splicing tape, grades BBL, BBM, BBZ

formula of primary component(s)

Starch sized cotton cloth,

(h) Animal protein remoistenable adhesive

section 2 ingredients

%

TLV
(units)

Cotton Cloth

*

65-

76

Adhesive

24-

35

*Depending on grade

(not specification values)

section 3 physical data

2 boiling point (°F)

N/A

6 specific gravity

N/A

3 vapor pressure (mmHg at 20°C)

N/A

7 % volatile by volume

N/A

4 vapor density (air = 1)

N/A

8 color and odor

Tan to Brown

5 solubility in water

30-50%

9 physical state

Cloth Tape

section 4 fire and explosion hazard data

10 flash point (and method used)

> 200°F

11 flammable limits (STP)

L.F.L. N/A

U.F.L. N/A

12 extinguishing
media:



water
fog



foam



alcohol
foam



CO₂



dry
chemical



other

13 special fire fighting protective equipment

None required

14 unusual fire and explosion hazards

None

section 5 reactivity data

15

normal
conditions

X

stability

fire
conditions

16 conditions to avoid

Generally considered unreactive

Flammable

17 incompat-
ibility
(materials to
avoid)



water



acid



base



corrosive



oxidizing
material



other

Above reactants would cause degradation.

18 hazardous decomposition products

None known.

19

hazardous
polymeriza-
tion

may
occur

will not
occur

X

20 conditions to avoid

N/A Not Applicable

RETURN TO:
KIMBERLY-CLARK CORPORATION

STREET ADDRESS _____

CITY - _____
 STATE - ZIP _____

ATTN: _____

FOR INFORMATION CONCERNING THIS
 DATA SHEET PLEASE CONTACT

NAME R. S. Sternasty

TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division Kimberly-Clark Corp.	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0561
ADDRESS	518 East Water St., Troy, Ohio 45373	
TRADE NAME	60# C1S Litho with Pancake® Adhesive	
SYNONYMS		
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
60# C1S Litho	86	Not Considered Hazardous
Pancake® Adhesive	14	Not Considered Hazardous
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 13%
% VOLATILES BY VOL.	Up to 5% mostly moisture	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive Coated Paper Odor: None to slight petroleum	

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	N/A	AUTOIGNITION TEMPERATURE	450°F
FLAMMABLE LIMITS IN AIR, % BY VOL.	N/A	LOWER	UPPER
EXTINGUISHING MEDIA	Any fire extinguisher, or water.		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARD	None		

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	Not Considered Hazardous			
ROUTES OF EXPOSURE <div style="border-bottom: 1px solid black; padding-bottom: 2px;">INHALATION</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">SKIN CONTACT</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">SKIN ABSORPTION</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">EYE CONTACT</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">INGESTION</div>	AIR CONTAMINANT CONCENTRATIONS			
	DATE	LOCATION	TLV	TEST RESULTS
EFFECTS OF OVEREXPOSURE <div style="border-bottom: 1px solid black; padding-bottom: 2px;">ACUTE OVEREXPOSURE</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">CHRONIC OVEREXPOSURE</div>				
EMERGENCY AND FIRST AID PROCEDURES <div style="border-bottom: 1px solid black; padding-bottom: 2px;">EYES</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">SKIN:</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">INHALATION:</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">INGESTION:</div>				
NOTES TO PHYSICIAN				

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon Monoxide Possible

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

None

NEUTRALIZING CHEMICALS

WASTE DISPOSAL METHOD

Same as for Paper

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None required

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

None required
RESPIRATORY (SPECIFY IN DETAIL)

EYE None required

GLOVES None Required

OTHER CLOTHING AND EQUIPMENT

None required

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

None

OTHER HANDLING AND STORAGE REQUIREMENTS

None

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: 518 E. Water St., Troy, Ohio 45373

DATE: 4/3/85

RETURN TO:	
KIMBERLY-CLARK CORPORATION	
STREET ADDRESS _____	
CITY _____	
STATE - ZIP _____	
ATTN. _____	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME _____	R. S. Sternasty
TELEPHONE NO. _____	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561	EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS 517 East Water Street, Troy, Ohio 45373		
TRADE NAME 60# Bleached Kraft, Strong		
SYNONYMS None		
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 21%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	> 200°F	AUTOIGNITION TEMPERATURE	> 200°F
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER
EXTINGUISHING MEDIA	Class A, B, or C Fire Extinguisher		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARD	None		

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA None				
ROUTES OF EXPOSURE	N/A	AIR CONTAMINANT CONCENTRATIONS N/A		
		DATE	LOCATION	TLV
INHALATION				TEST RESULTS
SKIN CONTACT				
SKIN ABSORPTION				
EYE CONTACT				
INGESTION				
EFFECTS OF OVEREXPOSURE				
ACUTE OVEREXPOSURE	N/A			
CHRONIC OVEREXPOSURE	N/A			
EMERGENCY AND FIRST AID PROCEDURES				
EYES	N/A			
SKIN:				
INHALATION:				
INGESTION:				
NOTES TO PHYSICIAN				

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

None

INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTS

None

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

Any acceptable process for non-hazardous materials.

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

None
RESPIRATORY (SPECIFY IN DETAIL)

EYE

None

GLOVES

None

OTHER CLOTHING AND EQUIPMENT

None

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

None

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio 45373

DATE: 11/15/82

RETURN TO:	
XX KIMBERLY-CLARK CORPORATION	
STREET ADDRESS	
CITY	
STATE - ZIP	
ATTN	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	R. S. Sternasty
TELEPHONE NO.	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561	EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS 517 East Water Street, Troy, Ohio 45373		
TRADE NAME 35# Bleached Kraft, Strong		
SYNONYMS None		
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT 32%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO:

~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~STREET
ADDRESS _____CITY
STATE - ZIP _____

ATTN _____

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACTNAME R. SternastyTELEPHONE NO. (513) 339-0561**MATERIAL SAFETY DATA SHEET****I PRODUCT IDENTIFICATION**

MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO.	(513) 339-0561
		EMERGENCY TELEPHONE NO.	(513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373		
TRADE NAME	50# Super Pancake		
SYNONYMS	None		

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
None		

III PHYSICAL DATA

BOILING POINT, 760 MM HG	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	17%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1)	N/A
APPEARANCE AND ODOR	Adhesive coated paper		

RETURN TO: KIMBERLY-CLARK CORPORATION	
STREET ADDRESS _____	
CITY _____	
STATE - ZIP _____	
ATTN _____	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME <u>R. Sternasty</u>	
TELEPHONE NO. <u>(513) 339-0561</u>	

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	50# English Finish Pancake	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 17%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO:	
KIMBERLY CLARK CORPORATION	
STREET ADDRESS	
CITY - STATE - ZIP	
ATTN:	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	R. S. Sternasty
TELEPHONE NO.	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	17# Quickett B/F Pancake	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 19%
% VOLATILES BY VOL	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO:
~~KIMBERLY-CLARK CORPORATION~~
 STREET ADDRESS _____
 CITY _____
 STATE - ZIP _____
 ATTN: _____

FOR INFORMATION CONCERNING THIS
 DATA SHEET PLEASE CONTACT
 NAME R. S. Sternasty
 TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	Climatized Sheet Stock with Removable Pressure Sensitive Adhesive	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. <1%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper with liner, slight acrylic odor.	

RETURN TO:
~~KIMBERLY-CLARK CORPORATION~~
 STREET ADDRESS _____
 CITY _____
 STATE - ZIP _____
 ATTN: _____

FOR INFORMATION CONCERNING THIS
 DATA SHEET PLEASE CONTACT
 NAME R. Sternasty
 TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	60# C1S Litho Pancake	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 14%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO:
~~KIMBERLY CLARK CORPORATION~~

STREET
ADDRESS _____

CITY -
STATE - ZIP _____

ATTN: _____

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACT

NAME R. S. Sternasty

TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Brown-Bridge Division

REGULAR TELEPHONE NO. (513) 339-0561
EMERGENCY TELEPHONE NO. (513) 339-0694

ADDRESS 517 East Water Street, Troy, Ohio 45373

TRADE NAME 60# Kromekote Pancake

SYNONYMS None

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
None		

III PHYSICAL DATA

BOILING POINT, 760 MM HG	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	14%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1)	N/A
APPEARANCE AND ODOR	Adhesive coated paper.		

RETURN TO: KIMBERLY CLARK CORPORATION STREET ADDRESS _____ CITY _____ STATE - ZIP _____ ATTN: _____

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT NAME <u>R. Sternasty</u> TELEPHONE NO. <u>(513) 339-0561</u>

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	50# Blue Medium Pancake	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 17%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO: KIMBERLY-CLARK CORPORATION	
STREET ADDRESS _____	
CITY - _____ STATE - ZIP _____	
ATTN: _____	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME <u>R. Sternasty</u>	
TELEPHONE NO. <u>(513) 339-0561</u>	

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME <u>Brown-Bridge Division</u>	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694	
ADDRESS <u>517 East Water Street, Troy, Ohio 45373</u>		
TRADE NAME <u>Grey Holland, Strong Gummed</u>		
SYNONYMS <u>None</u>		
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
<u>None</u>		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	<u>N/A</u>	MELTING POINT <u>N/A</u>
SPECIFIC GRAVITY (H ₂ O=1)	<u>N/A</u>	VAPOR PRESSURE <u>N/A</u>
VAPOR DENSITY (AIR=1)	<u>N/A</u>	SOLUBILITY IN H ₂ O, % BY WT. <u>21%</u>
% VOLATILES BY VOL.	<u>N/A</u>	EVAPORATION RATE (BUTYL ACETATE=1) <u>N/A</u>
APPEARANCE AND ODOR	<u>Adhesive coated cloth.</u>	

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

Contains Animal Protein

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio 45373

DATE: 11/15/82

RETURN TO:	
KIMBERLY-CLARK CORPORATION	
STREET ADDRESS	
CITY - STATE - ZIP	
ATTN:	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME	R. S. Sternasty
TELEPHONE NO.	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	White Cambric, Strong Gummed	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
None		
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 24%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated cloth	

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

Contains Animal Protein

OTHER HANDLING AND STORAGE REQUIREMENTS

Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock.

PREPARED BY: R. S. Sternasty

TELEPHONE NO. (513) 339-0561

ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, Ohio 45373

DATE: 11/15/82

RETURN TO: KIMBERLY-CLARK CORPORATION	
STREET ADDRESS _____	
CITY - STATE - ZIP _____	
ATTN: _____	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME <u>R. Sternasty</u>	
TELEPHONE NO. <u>(513) 339-0561</u>	

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division Kimberly-Clark Corp.	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	.005 Natural Kraft, Acid Free Gum	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
Natural Kraft Paper	76.5	Considered Non-Hazardous
Animal protein based adhesive	23.5	Considered Non-Hazardous
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 23.5%
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	> 200°F	AUTOIGNITION TEMPERATURE	> 200°F	
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER	N/A
EXTINGUISHING MEDIA	Class A, B, or C Fire Extinguisher			
SPECIAL FIRE FIGHTING PROCEDURES	None			
UNUSUAL FIRE AND EXPLOSION HAZARD	None			

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	None				
ROUTES OF EXPOSURE	N/A	AIR CONTAMINANT CONCENTRATIONS N/A			
		DATE	LOCATION	TLV	TEST RESULTS
INHALATION					
SKIN CONTACT					
SKIN ABSORPTION					
EYE CONTACT					
INGESTION					
EFFECTS OF OVEREXPOSURE	N/A				
ACUTE OVEREXPOSURE					
CHRONIC OVEREXPOSURE	N/A				
EMERGENCY AND FIRST AID PROCEDURES	N/A				
EYES					
SKIN:					
INHALATION:					
INGESTION:					

NOTES TO PHYSICIAN

Adhesive contains animal protein (collagen).

VI REACTIVITY DATA**CONDITIONS CONTRIBUTING TO INSTABILITY**

None

INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTSCO₂, CO, and possibly oxides of nitrogen.**CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION**

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

Any acceptable process for non-hazardous materials.

VIII SPECIAL PROTECTION INFORMATION**VENTILATION REQUIREMENTS**

None

SPECIFIC PERSONAL PROTECTIVE EQUIPMENTNone
RESPIRATORY (SPECIFY IN DETAIL)

EYE None

GLOVES None

OTHER CLOTHING AND EQUIPMENT

None

IX SPECIAL PRECAUTIONS**PRECAUTIONARY
STATEMENTS**

None

**OTHER HANDLING AND
STORAGE REQUIREMENTS**

Store between 50°F and 80°F and preferably between 30 and 50% R.H.
Rotate stock.

PREPARED BY: R. S. SternastyTELEPHONE NO. (513) 339-0561ADDRESS: Brown-Bridge Division, 517 East Water Street, Troy, OhioDATE: 7/31/84

RETURN TO:
KIMBERLY-CLARK CORPORATION

STREET
ADDRESS _____

CITY -
STATE - ZIP _____

ATTN: _____

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACT

NAME R. Sternasty

TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	Brown-Bridge Division Kimberly-Clark Corp.	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
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ADDRESS 517 East Water Street, Troy, Ohio 45373

TRADE NAME .010 Natural Kraft, Acid Free Gum

SYNONYMS None

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
Natural Kraft Paper	84.7	Considered Non-Hazardous
Animal protein based adhesive	15.3	Considered Non-Hazardous

III PHYSICAL DATA

BOILING POINT, 760 MM HG	N/A	MELTING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT.	15.3
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1)	N/A
APPEARANCE AND ODOR	Adhesive coated paper		

RETURN TO:	
KIMBERLY-CLARK CORPORATION	
STREET ADDRESS _____	
CITY - STATE - ZIP _____	
ATTN: _____	

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NAME _____	R. Sternasty
TELEPHONE NO. _____	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division Kimberly-Clark Corp.	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	.007 Natural Kraft, Acid Free Gum	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
Natural Kraft Paper	81.7	Considered Non-Hazardous
Animal protein based adhesive	18.3	Considered Non-Hazardous
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 18.3
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

RETURN TO: KIMBERLY-CLARK CORPORATION	
STREET ADDRESS _____	
CITY - STATE - ZIP _____	
ATTN: _____	

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TELEPHONE NO. _____	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division Kimberly-Clark Corp.	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	015 Natural Kraft, Acid Free Gum	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
Natural Kraft Paper	88.8	Considered Non-Hazardous
Animal protein based adhesive	11.2	Considered Non-Hazardous
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 11.2
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated paper	

KC 1453-D

N/A - Not Applicable¹

RETURN TO: KIMBERLY-CLARK CORPORATION	
STREET ADDRESS _____	
CITY - STATE - ZIP _____	
ATTN: _____	

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT	
NAME _____	R. Sternasty
TELEPHONE NO. _____	(513) 339-0561

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION		
MANUFACTURER'S NAME	Brown-Bridge Division Kimberly-Clark Corp.	REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 330-0694
ADDRESS	517 East Water Street, Troy, Ohio 45373	
TRADE NAME	.005 Fish Paper, Acid Free Gum	
SYNONYMS	None	
II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
Cotton paper treated with Zinc chloride	81.9	Considered Non-Hazardous
Animal protein based adhesive	18.1	Considered Non-Hazardous
III PHYSICAL DATA		
BOILING POINT, 760 MM HG	N/A	MELTING POINT N/A
SPECIFIC GRAVITY (H ₂ O=1)	N/A	VAPOR PRESSURE N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN H ₂ O, % BY WT. 18.1
% VOLATILES BY VOL.	N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A
APPEARANCE AND ODOR	Adhesive coated vulcanized fiber.	

Exhibit 4

Previous and Current Addresses
of Haulers
Used by Brown-Bridge
to Transport Waste Materials to the
Miami County Incinerator Landfill

<u>HAULER</u>	<u>PREVIOUS ADDRESS</u>	<u>CURRENT ADDRESS</u>
1. Jay Foster	228 South Oak Street Troy, Ohio 45373	SAME
2. Raymond Ferguson	Route 2, Box 75 Lebanon, Virginia 24266	DECEASED
3. Avey Services, Inc.	430 South Crawford Street Troy, Ohio 45373	SAME
4. Sussman, Inc.	600 West Statler Road Piqua, Ohio 45356	NO LONGER IN BUSINESS

Exhibit 4

Previous and Current Addresses
of Haulers
Used by Brown-Bridge
To Transport Waste Materials to the
Miami County Incinerator Landfill